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The OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

THE WEEK'S NEWS INTERPRETED

OCT 15 1936
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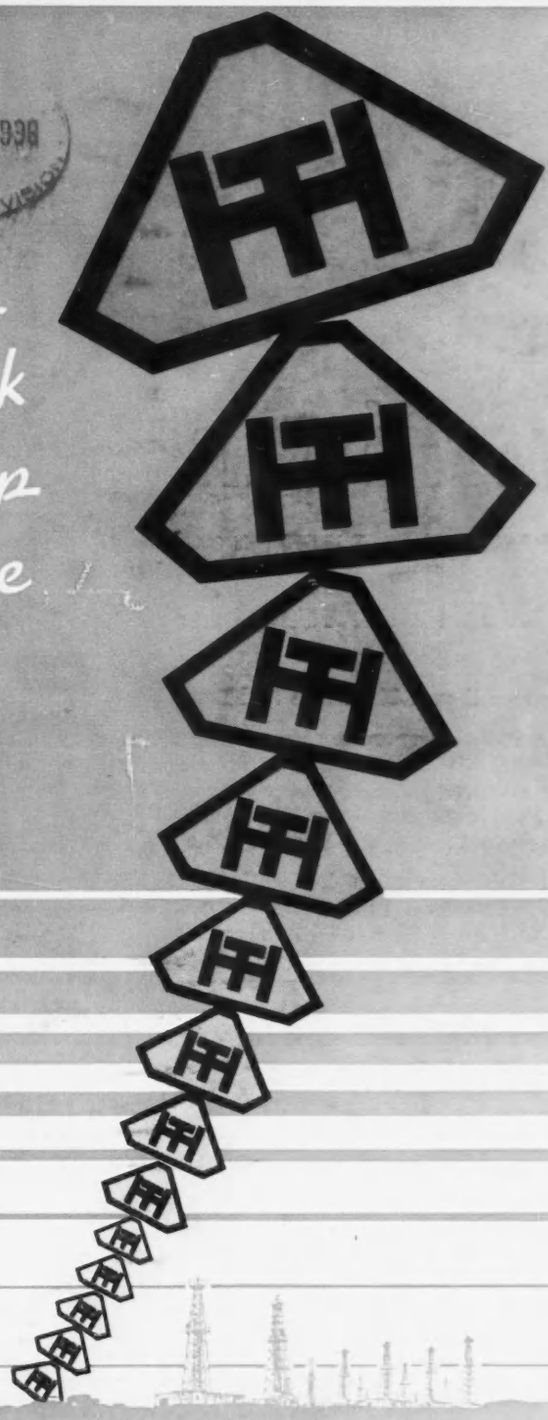
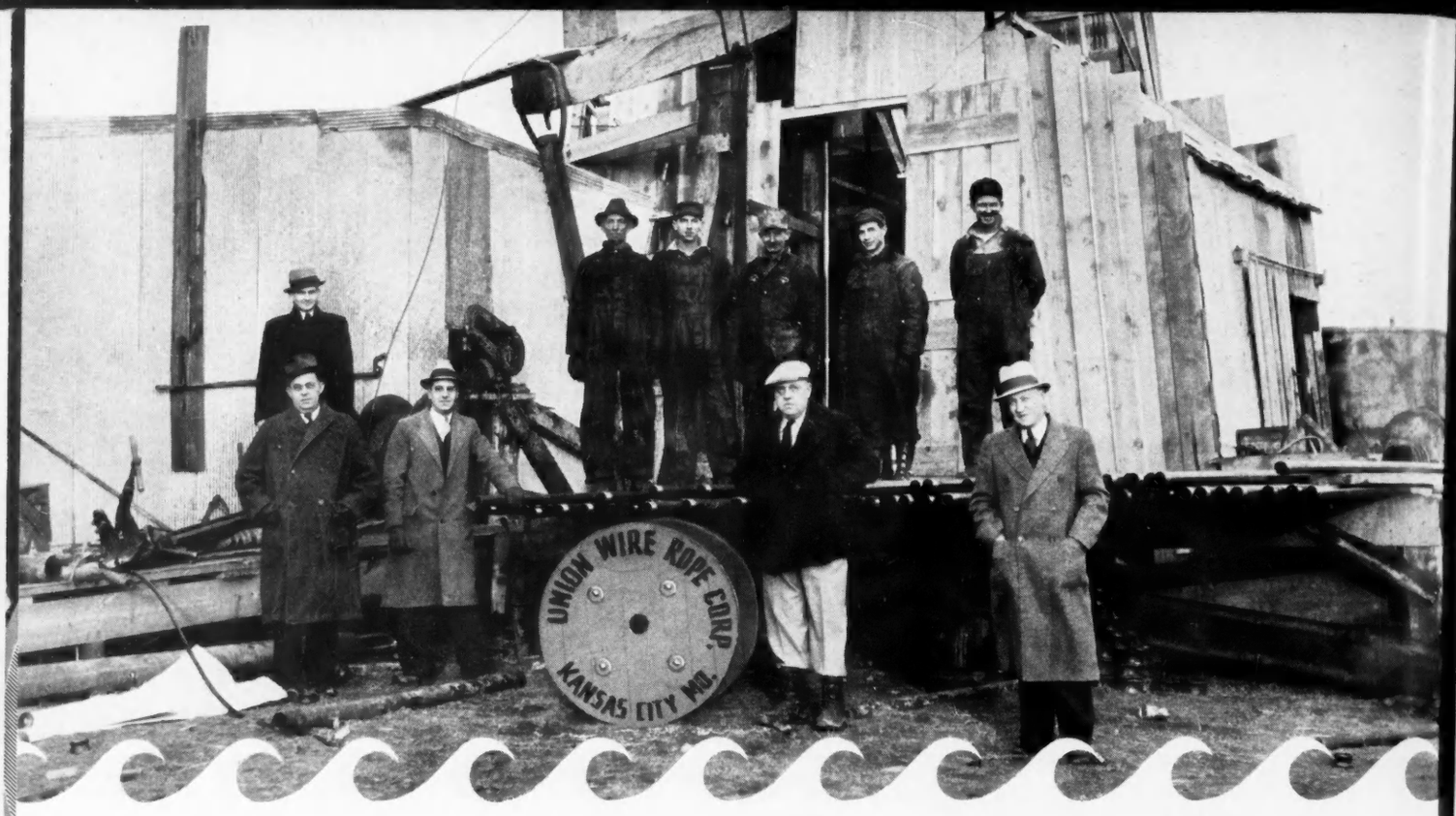


HUGHES TOOL COMPANY • HOUSTON, TEXAS • U. S. A.

VOLUME 83 SEPTEMBER 14, 1936 NUMBER 1



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There are more than 5,000 lakes in Michigan.

In the *Lake State* oil operators know they can always depend on UNION Wire Lines for "smooth sailing." For wherever they are used, UNION Lines prove that they give longer, more dependable service. They are made from the toughest steels, and have the important advantage of being designed by *oil* men who are thoroughly familiar with *oil* field requirements.

The photograph shows the Daily Crude Oil Company's well, "Jenson No. 1", at Field, Michigan. This well was equipped with a UNION Drilling Line and a UNION Sand Line, and is shown just after it was drilled in. The men in the front row, left to right, are: H. A. "Andy" Corbin and H. F. Frick, Jarecki Mfg. Co.; Crawford Daily, contractor and producer; F. A. Donaldson, Union Wire Rope Corp. Those in the back row, left to right, are: J. A. Moore, Jarecki Mfg. Co.; W. H. Bartlett, George Hansen, Joe Cummings, James Davidson and John Ward—all leasemen employed by the Daily Crude Oil Company.

See our Exhibit at the Texas Centennial Central Exposition, Dallas, Section 'B', Spaces Nos. 1 and 2, Transportation Bldg.

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Michigan is a paradise for vacationists. The cool breezes from her many lakes and her excellent facilities for fishing and boating attract thousands of tourists each year. Michigan has created approximately 50 state parks, to further enhance the natural beauty of her scenery.

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THE *trail* STARTS ON PAGE 187 OF YOUR 1936 COMPOSITE CATALOG

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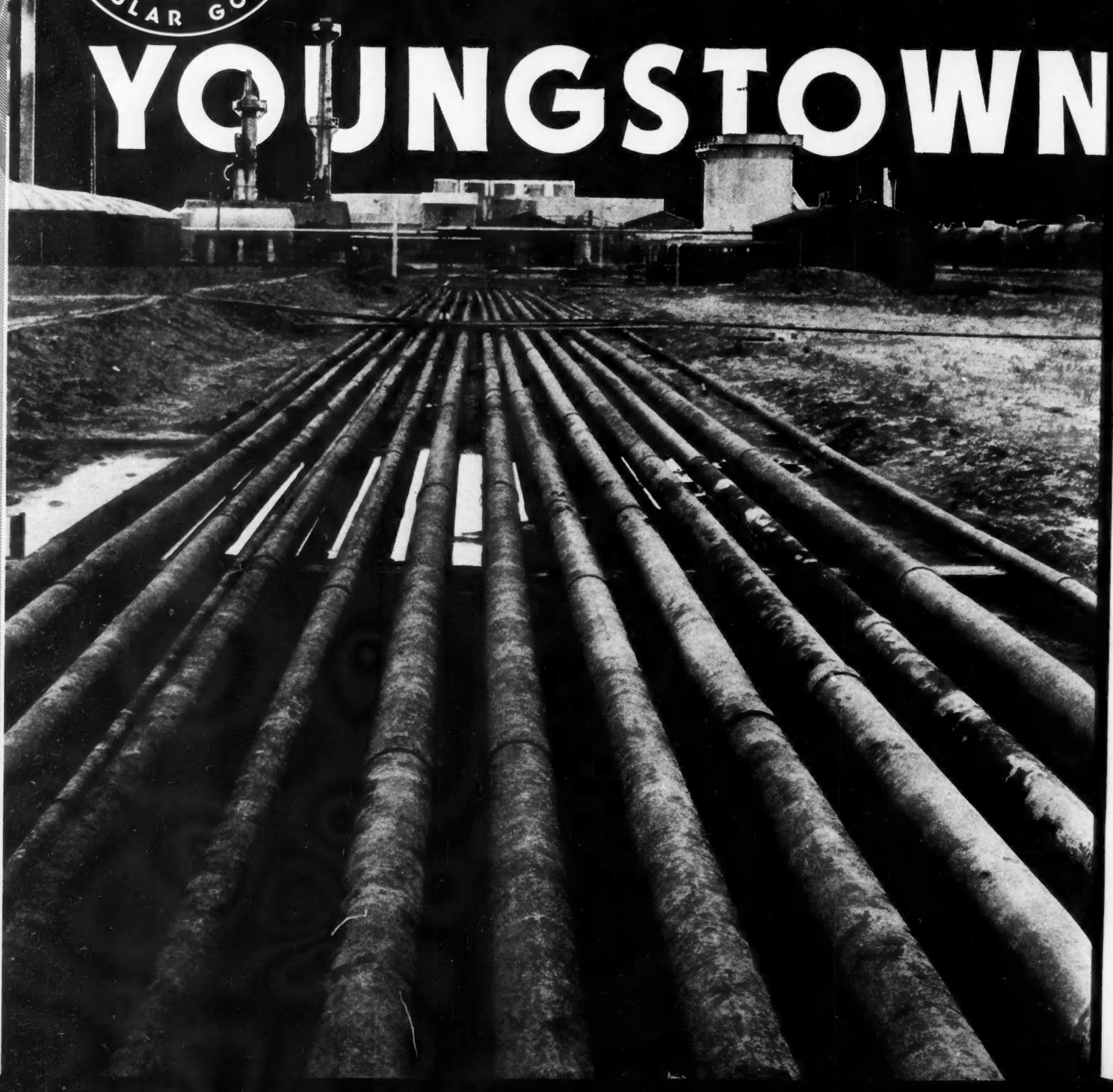

SEP 16 1936
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THE OIL WEEKLY

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PUBLISHED BY
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HOUSTON, TEXAS

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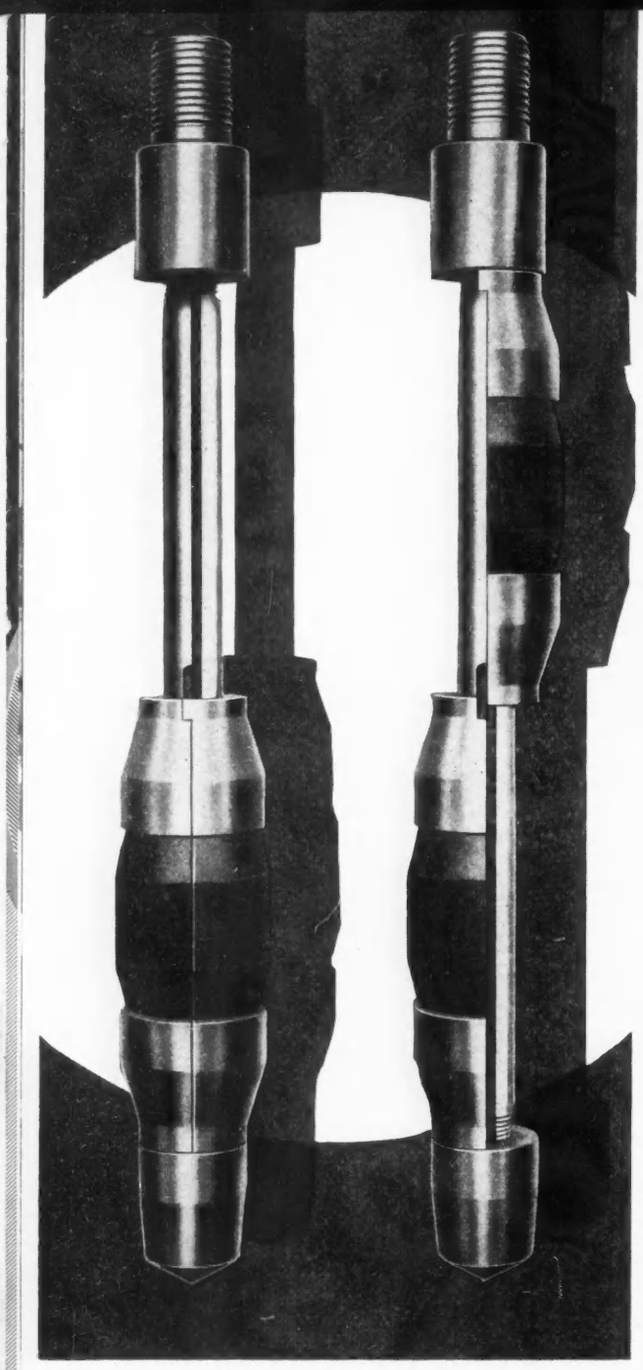
SPECIALIZED OIL JOURNALS
Published by
THE GULF PUBLISHING COMPANY

BRANCH OFFICES

NEW YORK.....250 Park Ave.
PITTSBURGH.....Standard Life Bldg.
CHICAGO.....332 S. Michigan Ave.
LOS ANGELES.....Haas Bldg.
TULSA.....Hurt Bldg.
FORT WORTH.....W. T. Waggoner Bldg.
WASHINGTON.....Albee Bldg.

Member Audit Bureau of Circulation
Member Associated Business Papers, Inc.

Published every Monday. Single Copies 15 cents. Subscription price: domestic and foreign, $2.00 a year; renewal subscriptions, one year $2.00, 2 years $3.00. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil industry or the manufacturing and distribution of oil field supplies.
Advertising rates on application. Copyrighted 1936 by The Gulf Publishing Company.



The right hand illustration above, shows the Mission Valveless Open-Flow Swab as it falls in the tubing, with one-half of the swab rubber raised above the other to allow for fluid passage.

The left hand illustration shows the swab on the up-stroke with rubbers side by side in swabbing position.

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THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor

. . . this Week

DUE largely to the continuation of all-time peak consumption, oil industry statistics during August continued to be favorable. There was satisfactory regulation of production and manufacturing to consumptive demands, with a resultant stability for the markets. Although production was high, the large volume of products consumed easily met this condition, and storage of both crude and finished products continued to decline. In fact, crude and gasoline stocks decreased about 5,000,000 barrels each during the month. Drilling continued high; in fact, not far under the year's peak reached last May. **Page 10.**

THE Texas statewide proration hearing which was expected to bring out heated arguments over well spacing, was exceptionally quiet. The commission did not discuss well spacing, and the meeting was routine. The feature was a report on East Texas, which showed only a small decline in bottom-hole pressure had occurred during the past month. **Page 8.**

THE greatest gathering of international experts to meet in Washington since the disarmament conference 15 years ago, occurred last week when 3000 government officials and engineers from all over the world attended the Third World Power Conference which was featured by the discussions on oil. Reserves, conservation practices, progress of the industry, governmental policies and many other pertinent economic phases of the petroleum situation were discussed. **Page 18.**

A NEW situation developed last week in hot oil legal battles, when the State of Texas filed a suit seeking to restraint a producer from selling oil for which tenders had been denied. The crude was being sold to satisfy an income tax claim held by the federal government. The State of Texas also claimed title to the oil. **Page 9.**

THE intangible values of Texas pipe lines is now $58,056,000, an increase of $8,332,000 over the 1935 assessment, according to the state tax board. Immediately after companies were notified of their assessed values, four suits attacking the validity of the assets were filed. These cases question the constitutionality of the statute and seek a temporary injunction. Hearing has been set for October 5. **Page 8.**

MEMBERS of the Texas Railroad Commission and the attorney general's department conferred last week on the hot oil situation in East Texas. The commission has completed a survey of storage in the field and has furnished the legal department with a list of the location of oil on which tenders have been unapproved. Nothing new developed at the conference, but the records are up to date and additional suits may be filed. **Page 9.**

The Oil Man's Calendar

SEPT. 16–18	National Petroleum Association, Atlantic City, New Jersey.
OCT. 5– 9	National Safety Congress Petroleum Section, Atlantic City, New Jersey.
8– 9	American Institute of Mining and Metallurgical Engineers, Petroleum Division. Fort Worth, Texas.
8– 9	National Road Oil and Asphalt Congress, Tulsa, Oklahoma.
19–23	American Institute of Mining and Metallurgical Engineers, Cleveland, Ohio.
25–30	American Gas Association, Atlantic City, New Jersey.
	American Association of Petroleum Geologists, Pacific Coast Section, Los Angeles, California
NOV. 7–16	American Institute of Mining and Metallurgical Engineers, Western Meeting, Mexico City, Mexico.
9–12	American Petroleum Institute, 17th Annual Meeting, Chicago, Illinois.
20	Mid-Continent Oil and Gas Association Kansas-Oklahoma Division, Tulsa, Oklahoma.
NOV. 30– DEC. 1–	Independent Petroleum Association of America, Biltmore Hotel, Oklahoma City, Oklahoma.
NOV. 30– DEC. 4–	American Society of Mechanical Engineers, Annual Meeting Society's Building, New York.
4–	Mid-Continent Oil & Gas Association, Texas Division, Annual Meeting, Houston, Texas.

CONSERVATION in the various methods of recovery requires an investigation into, first, the maximum utilization of natural expulsive forces in order to obtain maximum recovery with minimum expenditure of natural energy; second, the coordination of production to consumption; third, reduction of costs to a minimum; and finally, the use of nature's reservoirs for the storage of products for which no immediate remunerative market is available according to Sir John Cadman, who spoke before the Third World Power Conference. **Page 41.**

CONSIDERABLE work has been directed toward refinement of natural gas measurement by the orifice method. These studies have included investigations of flow pulsation and related measurement errors. Although results are not conclusive in offering a complete solution to the problem of eliminating pulsation error, investigations have developed means of increasing measurement accuracy of flows. **Page 27.**

THE layout of existing direct-current powered rotary drilling rigs is of interest and value. An investigation of the way generators, engines and motors on different rigs are associated while the major operations of drilling and hoisting are in progress has been completed recently. It shows that several of the rigs differ but little, and that the main differences are in the engines, the mountings and in the devices used to transmit the power of the engines to the generators. **Page 30.**

Quiet Texas Hearing

FAIL TO DISCUSS IMPORTANT SUBJECT OF WELL SPACING

AUSTIN.

THE Texas Railroad Commission failed to take up for discussion at the statewide hearing Friday a proposed amendment to the statewide spacing rule which had been announced in the notice of hearing. Commission Chairman Ernest O. Thompson said the board was not yet ready to discuss this plan.

More than 300 oil men were present at the hearing, anticipating a lengthy argument. There is now in effect a statewide spacing rule providing for wells to be drilled 150 feet from lease lines and 300 feet apart. This rule applies in all fields where no special rule has been provided. The commission, in its notice of hearing, announced that it would consider the promulgation of a rule providing for the spacing of wells 330 feet from lease lines and 660 feet apart to be substituted for the rule now in effect. From private sources it was learned that many independent operators were opposed to this program, feeling that the promulgation of a ten-acre spacing rule would lead to acreage proration throughout Texas. They feared that it might be extended even into the East Texas field, where such a plan has long been advocated by the holders of large acreage.

V. E. Cottingham, director of production for the commission, testified at the hearing on the condition of the East Texas field. He reported that the pressure on September 10 averaged 1183.5 pounds, a decline of 3.5 pounds since the last tests were completed on August 12. During the elapsed period, the entire production averaged 433,522 barrels daily, which indicated a decline in pressure of .278 pounds per million barrels of oil produced.

Rice Tilley, Fort Worth attorney, representing operators in the McClintic field, asked that the commission increase the allowable 300 barrels per day. The current allowable is 800 barrels daily, and Tilley told the commission that the field allowable had not been increased during the past year in proportion to the increase in the field potential, which he said amounted to 143 percent.

The hearing was concluded without any indication from the commission as to the probable date for hearing on the spacing rule.

PIPE LINE VALUE

In Texas now assessed at $58,056,000 by board

A REPORT from the State Tax Board shows that the intangible values of Texas pipe lines is now $58,056,000, according to the assessment made by the board. This total is $8,332,000 more than the 1935 assessment.

The Tax Board makes the assessment and certifies its findings to the various counties of Texas where the Tax is actually collected.

In some instances, the preliminary assessments made by the board this year were lower than the final assessments to which the board will certify. This is a condition which has not existed prior to this year. In the table set out below, the preliminary assessment, the final assessment for 1936, and the final assessment for 1935, are listed.

COMPANY	Preliminary 1936	Final 1936	Final 1935
Atlantic	$ 5,568,700	$ 6,286,500	$ 6,196,000
Gulf	2,200,000	2,000,000	2,000,000
Humble	9,763,000	11,095,000	11,396,000
Magnolia	5,444,000	3,900,000	4,493,700
Shell	3,930,000	4,215,000	3,412,200
Sinclair Prairie of Texas	10,306,000	6,792,500	5,878,500
Sinclair Prairie	100,000	100,000	.....
Texas	7,183,000	7,387,000	4,621,000
Arkansas	276,400	175,000	312,000
Empire	164,600	160,000	192,000
Pan American	350,000	350,000	463,300
Pure	2,483,000	3,712,000	2,350,000
Standish	60,000	25,000	44,000
Sun	1,422,000	1,550,000	1,500,000
Texas Empire	2,898,500	2,645,000	2,735,000
Tidal	782,800	630,000	1,100,000
Yount Lee	1,381,000	754,000	1,200,000
Pasotex	390,000	115,000	100,000
Stanolind	250,000	130,000	130,000
Regan County Purchasing Co.	1,500,000	1,000,000	1,500,000
Toronto	475,000	.....	100,000
Valley	70,000	105,000	.....
Eastern Texas Petroleum	108,000	45,000	.....
Channel Transport and Mkt.	800,000	325,000	.....
Federal	50,000	30,000	.....
International	100,000	60,000	.....

A. C. S. Convention

CHEMISTS CAN SEE NO NEED FOR ALARM OVER RESERVES

PITTSBURGH.

CHEMISTS affiliated with the petroleum industry convened in Pittsburgh this week at the annual meeting of the American Chemical Society, Petroleum Division, devoted much of their session time to the discussion of analytical data relative the proper utilization of lighter hydrocarbons, such as occur in natural gas and petroleum refinery gases. They discussed the trend in technological development in the lubricating oil fields, concerning themselves especially with the lubricating oil bearing crudes. And with an eye to the future, possibly, discussed the importance and developments of hydrogenation of coal.

Not Worried About Reserves

Chemists addressing these sessions made no specific attempt to prophesy with regard to domestic or world petroleum reserves, although it was brought out in informal discussion that technologists studying the crude reserve situation were not in any way alarmed. It appears the group of petroleum technologists now conducting research into the nature of petroleum considers there will be sufficient crude for the next 50 or 100 years. During this time much more efficient utilization of crude processing facilities will be developed which will tend to conserve oil much in the same fashion as the cracking process has been of such real importance in the conservation of crude during the past 15 years. More efficient cracking, hydrogenation, dehydrogenation, polymerization, alkylization, are among the processes currently available which are at present making rapid strides in development to the end that although the world is confronted with rapid increase in demand for petroleum products, more efficient processes are available or will be available for the more efficient utilization of the given barrel of crude.

The petroleum chemist is looking still

FOUR SUITS FILED

Attacking intangible tax assets on pipe lines

AUSTIN.

FOUR suits attacking the validity of the Texas intangible assets pipe line tax law were filed last week in Travis County District Courts.

Humble Pipe Line Company, Magnolia Pipe Line Company, Texas Empire Pipe Line Company and The Texas Pipe Line Company were plaintiffs listed in the petitions filed.

These suits question the constitutionality of the statute and ask for a temporary injunction restraining the State Tax Commissioner from certifying returns to the various countries of Texas. Hearing on the temporary injunction has been set for October 5.

Similar suits filed last year are now pending in the Third Court of Civil Appeals at Austin, and are set for hearing on October 14.

further into the future and is applying his knowledge of hydrogenation, polymerization and cracking to the field of coal. The oil chemist now is capable of applying known processes to the problem of securing large yields of motor fuels from both domestic and foreign coal deposits. Estimates regarding the available supply of coal vary from 700 to 2500 years supply. In conjunction with the division of gas and fuel, the petroleum division of the society held one meeting devoted entirely to the hydrogenation products of coal.

Dr. Friedrich Bergius of Germany, the technologist generally credited with the perfection of the German process for preparation of motor fuels from coal, visited the joint session and traced the history of his work in development of this process from the early laboratory work of 1910 down to the present, at which time large installations of the Bergius process are commercially employed in Germany and in England. It was brought out that Germany will in a few months be equipped with sufficient plants for the production of synthetic crudes and synthetic gasolines to meet at least one half of its total volume demand. Processes are now in operation which, through a combination of synthetic crude oil production processes used in conjunction with cracking, reforming and polymerization, can secure yields of 66 percent of 66 octane rating motor fuels from the synthetic crude derived from the coal. Coal yields approximately 2 barrels of synthetic crude per short ton. Thus, in Germany, the production of synthetic motor fuels from a source other than crude oil is an accomplished commercial fact.

In addition, the oil chemist finds that the coal chemist in the United States, as well as abroad, is studying the production of hydrocarbons from coal and is rapidly securing knowledge of the necessary processing steps to the end that if and when necessary the coal industry can augment or supplement the supply of motor fuels in this country. Cheap coal, it is thought, may some day become a logical competitor to high priced crude oil, and though this day apparently is far distant, the coal chemist is not overlooking any bets and is providing his industry with the necessary technical knowledge and processing information. At the same time, the petroleum technologist is keeping abreast of developments in the coal industry while providing the petroleum industry with better tools for more efficient use of crude petroleum.

HOT OIL CONFERENCE
Texas officials discuss East Texas situation

AUSTIN.

IN AN effort to stimulate the clean-up of East Texas hot oil storage, members of the Texas Railroad Commission and its staff conferred last week with Attorney General McCraw and several of his assistants.

The commission has completed a survey of storage in the field, and has furnished the attorney general with a list of the location of such oil, which the commission has declined to approve for transportation and sale. Much of this oil has been in storage in the field for more than a year and has deteriorated rapidly.

At the conclusion of the conference, Attorney General McCraw and Railroad Commission Chairman Thompson declared that nothing new was developed, that they had brought the records up to date and were now prepared to file additional penalty suits and other suits to confiscate the oil which might have been illegally produced.

Each department head declared that their assistants were working most harmoniously and that the problem had become one of routine. McCraw stated that there were approximately 100 penalty cases pending on the docket, which would be prosecuted as rapidly as they could be cared for by the courts. He said that suits would be filed in other cases where the railroad commission has prepared evidence and submitted it to the attorney general.

McCraw said that he would send to East Texas those particular assistant attorneys general who would be requested by the railroad commission, and who were thoroughly experienced in the particular type of case which is causing the most difficulty.

New Hot Oil Angle
TEXAS CLAIMS CRUDE BEING SOLD TO PAY FEDERAL TAX

AUSTIN.

AN ENTIRELY new angle to the hot oil situation was developed last week when the Railroad Commission of Texas and the attorney general filed suit against W. E. Pope of Corpus Christi in obtaining an injunction restraining the sale of oil for which tenders had been denied by the Railroad Commission.

Pope claimed title to more than 500,000 barrels of oil located in the East Texas field and sought to sell this production to satisfy an income tax claim held by the federal government.

Attorney General William McCraw filed suit in the 98th District Court at Austin and restrained Pope from disposing of the oil. In his petition, the attorney general alleged that the oil which federal officials proposed to sell in order to satisfy the claim was produced in violation of the conservation laws of Texas. McCraw also claimed title to the oil as the property of the state.

In the course of the petition, McCraw said in part:

" . . . Defendant W. E. Pope made some character of contract with the other defendants herein . . . to move said unlawful oil and products into commerce and to pay from the proceeds the sum of money due to the United States Government by W. E. Pope for relinquent income tax . . . and the defendant-sellers were to receive the remaining balance . . . In pursuance of said plan . . . W. E. Pope did purport to purchase the above described oil . . . and did receive some character of bill of sale purporting to convey title . . . and did execute some character of lien. The defendant Frank Scofield, Judd Miller and F. B. Parsons, purporting to act for the federal government, did agree to levy upon said unlawful oil . . . and sell same at public outcry in satisfaction of said debt due the United States government . . . and did agree that the balance . . . would be paid to defendant-sellers . . . The plaintiff (State of Texas) does not seek to obstruct the United States government in the collection of its debt from W. E. Pope out of any property Pope may own. In this connection it is alleged that the property is not the property of Pope, but is the property of the State of Texas, in that same is unlawful oil and is a nuisance. Defendants Scofield, Miller and Parsons; in levying upon said oil, did act wholly beyond the scope of their authority . . . and in a manner contrary to the statutory laws of the state of Texas . . . "

This suit also is a suit in rem, directed against the oil, asking that it be declared a nuisance and sold at public auction under the Texas confiscation law and that the proceeds from the sale be placed in the State Treasury.

The defendants listed included: defendant-sellers, who allegedly contracted with Pope to get the oil moved: D. T. Nowlin, Nowlin Reclamation Plant, Gregg County; Utah Refining Company, J. C. Potter, president, Gregg County; Potter Brothers Pipe Line Company, Inc., Gregg County; Kil-Tex Reclamation Plant, D. T. Nowlin, D. G. Caldwell, F. Hull, officers, Gregg County; Carnation Refineries, Inc., Gregg County; T. E. Patton, T. B. Goodwin, and P. W. Leland, officers; Illinois Refining Corporation, Kilgore; Alamo Refining Company, Taylor, with G. L. Rowsey, H. A. Melasky and B. H. Harrison, officers; Potter Pipe Line Company, Inc., Smith County; Rex Pipe Line Company, Gregg County, with R. E. Hicks, R. E. Ellis and S. D. Kiffer, officers; Marine Production Company, Gregg County; J. C. Potter; Tom Potter; Julian Potter; John King; Roger Lacy; A. V. Riley; Potter Drilling Company, Inc., Gregg County, with Tom Potter, Julian Potter and W. H. Sanders, officers.

Additional defendants: Frank Scofield, U. S. Collector of Internal Revenue for the Southern District of Texas; Judd Miller of Travis and Nueces County; F. B. Parsons, Travis County; W. E. Pope, Nueces County.

The oil includes 467,170 barrels of crude; 41,000 barrels of weathered crude; 2000 barrels of crude tops; 2107 barrels of kerosene and distillate; 1118 barrels of fuel oil; 1199 barrels of gas oil; and 3272 barrels of gasoline.

Most of the oil is located in Gregg County in steel storage, although part is in Rusk County in open pits.

CONCESSION GRANTED

Mexican Eagle Oil Company has been granted a concession recently by the ministry of national economy of Mexico to exploit 28,161 hectares in the Gavilan tract, Minatitlan municipality, Vera Cruz state.

Favorable Situation

By JACK LOGAN, Associate Editor

THE favorable situation in the oil industry, still continuing, is reflected conclusively in the August statistics on petroleum.

Just as this month is doing, August brought a fairly satisfactory regulation of wells and refineries and a resultant stability of the oil markets, at comparatively good price levels.

Meanwhile, consumption of gasoline and other petroleum products continued at all-time peak proportions.

The stable markets and the large volumes of business enabled the oil companies to continue the favorable earning records of the earlier part of the year. The earnings this year have been the highest of the recovery period.

Storage Further Reduced

The effectiveness with which wells and refineries were regulated in August is shown by the fact important reductions were made in the stocks of crude oil and gasoline. The crude stocks were reduced about 5,000,000 barrels during the month, and stocks of finished and unfinished gasoline were brought down about the same amount.

These important reductions of stocks were in line with the recommendations of the Bureau of Mines. That agency contemplated that the unusually high consumption of the month would permit the industry to reduce stocks sizable quantities without great difficulty, and such results actually were achieved. The nation's crude production was not held down quite to the level recommended by the federal bureau. But there was a continuation of cooperation among a group of the leading producing states in crude control, and the nation's output was held within 92,650 barrels of the daily average suggested by the bureau. Although that excess was substantially greater than the one in July, it was not as great as the overproduction in various earlier months of the year.

Markets Relatively Good

By virtue of the strict control of crude oil production, the crude market continued steady during August, as it has done subsequently. There has not been any revival of the late-spring fears for the stability of the crude price structure. In fact, the head of one large oil company lately expressed the opinion that some further increase of crude prices would be beneficial for the industry generally. He stated that under existing conditions and prices, there are substantial profits on refined products, which might lead to the granting of price concessions, and general unsettlement of the industry's markets. He said that a moderate raising of crude prices probably would prevent such price cutting on the refined products and assure a continuation of favorable markets generally.

Crude prices are some better than a year ago, even at prevailing levels. They are higher now by the margin of the advances in January, this year. The increases at that time averaged about 10 cents a barrel. Thus the prices now are about 10 percent. higher than a year ago.

Product prices also are substantially better than a year ago, although they lost a little ground during August. For the country as a whole, gasoline tank car prices are about one half cent a gallon higher than at this time last year, while retail gasoline prices are about one fourth cent a gallon higher.

The slight decline of tank car and retail prices of gasoline during August apparently reflected the status of gasoline inventories. The gasoline stocks were built up to an unprecedented peak the past spring, and the large stocks have had an appreciable effect on the markets throughout the summer, even though fairly satisfactory results have been obtained in reducing the storage. The heavy inventories have been only partially justified by the gains that have been made in gasoline consumption.

Drilling Activity Great

The comparatively favorable markets for crude oil and products apparently were

United States Drilling and Production, August, 1936, and Cumulative for Year

STATE OR DISTRICT	MONTH OF AUGUST, 1936						CUMULATIVE, JANUARY THROUGH AUGUST, 1936					
	*Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	Total Bbls. Oil Prod.	*Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	Total Bbls. Oil Prod.
Arkansas	14	2	....	12	624	902,250	70	16	2	52	6,089	7,256,300
California	103	66	....	37	31,166	17,919,200	752	517	9	226	248,665	143,889,477
Colorado	2	....	....	2	.....	152,650	8	3	....	5	2,150	1,105,450
Eastern States	331	102	144	85	2,373	3,475,250	2,060	607	900	553	15,089	26,073,700
Illinois	....	....	....	....	.....	.....	4	....	4	....	.....	.....
Indiana	15	1	10	4	50	.....	143	25	50	68	778	.....
Kentucky	54	41	1	12	1,712	.....	191	119	7	65	7,537	.....
Ohio	198	44	98	56	500	.....	1,273	355	576	342	5,979	.....
West Virginia	64	16	35	13	111	.....	449	108	263	78	795	.....
Kansas	174	120	4	50	131,619	5,015,150	1,086	774	34	278	746,750	36,603,850
Louisiana	94	58	15	21	64,535	7,265,450	678	449	82	147	1,098,116	51,773,450
North Louisiana	61	39	14	8	54,360	2,537,200	391	255	75	61	983,042	17,102,750
South Louisiana	33	19	1	13	10,175	4,728,250	287	194	7	86	115,074	34,670,700
Michigan	80	36	17	27	3,707	975,500	513	226	138	149	38,397	8,497,300
Montana	20	14	3	3	1,542	539,350	99	77	10	12	7,920	3,574,400
New Mexico	57	55	....	2	97,602	2,416,350	380	350	10	20	660,640	16,464,500
Oklahoma	308	231	14	63	493,513	17,838,050	1,960	1,380	91	489	2,933,714	130,717,300
Southeastern States	1	....	....	1	.....	.....	9	....	....	9	.....	.....
Alabama	....	....	....	....	.....	.....	2	....	....	2	.....	.....
Florida	....	....	....	....	.....	.....	1	....	....	1	.....	.....
Mississippi	1	....	....	1	.....	.....	6	....	....	6	.....	.....
Texas	1,264	967	37	260	1,479,872	36,163,500	8,276	6,232	239	1,805	9,673,766	274,364,000
East Texas	326	309	....	17	1,070,111	13,392,700	2,060	1,938	3	119	6,881,317	106,625,600
East Central Texas	25	16	1	8	26,411	1,866,800	166	116	8	42	310,014	12,680,450
North Texas	214	114	....	100	16,404	1,889,600	1,454	790	6	658	90,470	14,292,200
South Texas	310	240	14	56	106,324	2,677,950	2,140	1,597	67	476	825,534	19,119,950
Texas Gulf Coast	119	85	5	29	32,400	8,001,450	756	541	24	191	227,020	58,229,700
Texas Panhandle	59	42	12	5	21,032	1,917,750	437	312	104	21	171,383	14,916,500
West Texas	163	139	3	21	204,977	5,594,550	954	808	11	135	1,158,845	42,298,050
West Central Texas	48	22	2	24	2,213	822,700	309	130	16	163	9,183	6,201,550
Wyoming	16	11	....	5	7,383	1,253,350	52	41	4	7	36,553	8,864,500
Total United States	2,464	1,662	234	568	2,313,936	93,916,050	15,943	10,672	1,519	3,752 *	15,467,849	709,184,227

*August completions shown here cover not the calendar month, but the five weeks, or 35 days, ended August 29.

Continued in August

ALL-TIME PEAK CONSUMPTION PERMITS HIGH OUTPUT WITHOUT ANY HARM

Excesses of Average Daily Crude Production Above Bureau of Mines Recommendations

(Barrels Daily)

MONTH	California	Kansas	Louisiana	New Mexico	Oklahoma	Texas	Other States	United States
March, 1936:								
Production	566,510	147,600	191,232	60,532	515,484	1,111,194	236,198	2,828,750
Demand	538,800	142,000	151,400	49,300	506,300	1,104,000	247,100	2,738,900
Excess	27,710	5,600	39,832	11,232	9,184	7,194	*10,902	89,850
April, 1936:								
Production	572,671	153,600	210,642	63,692	550,170	1,145,953	217,872	2,914,600
Demand	552,600	146,000	160,900	63,200	525,000	1,122,800	226,800	2,797,300
Excess	20,071	7,600	49,742	492	25,170	23,153	*8,928	117,300
May, 1936:								
Production	576,643	156,679	228,040	74,600	546,182	1,163,460	230,449	2,976,053
Demand	544,000	150,100	170,500	65,900	538,300	1,132,500	225,000	2,826,300
Excess	32,643	6,579	57,540	8,700	7,882	30,960	5,449	149,753
June, 1936:								
Production	578,240	145,922	222,427	73,033	549,765	1,152,873	231,648	2,953,908
Demand	535,500	153,100	175,700	68,300	552,500	1,125,700	227,500	2,838,300
Excess	42,740	*7,178	46,727	4,733	*2,735	27,173	4,148	115,608
Fuly, 1936:								
Production	574,855	153,251	229,968	74,005	543,822	1,142,690	231,931	2,950,522
Demand	550,800	164,200	186,800	69,400	569,800	1,146,500	229,700	2,917,200
Excess	24,055	*10,949	43,168	4,605	*25,978	*3,810	2,231	33,322
August, 1936:								
Production	578,039	161,779	234,369	77,947	575,421	1,166,564	235,431	3,029,550
Demand	550,000	166,500	188,500	70,100	575,500	1,154,700	231,600	2,936,900
Excess	28,039	*4,721	45,869	7,847	*79	11,864	3,831	92,650

*Under production.

responsible, along with the summer weather, for a relatively large amount of drilling during August. Well completions in the United States averaged 70.4 daily, which was not far under the average for May, when field work set a peak for the recovery period.

As in earlier months of the year, various states and districts were especially active in drilling during August. Those particularly active areas include New Mexico, North Louisiana, West Texas, South Texas.

During the initial eight months of this year, 15,943 wells have been completed in the United States. That represents an increase of 17 percent over the 13,622 wells completed in the similar period of last year.

This year's completions have run about twice as high as those of last year in New Mexico, North Louisiana, South Texas, West Texas, and Michigan. Oklahoma, Kansas, and the Eastern States have recorded increases of around 25 percent. The gains have been smaller in California, South Louisiana, Colorado, Montana, Wyoming, North Texas, East Central Texas, the Texas Gulf Coast, the Texas Panhandle, and West Central Texas. Drilling has run lower this year than last year in Arkansas, the Southeastern States, and East Texas. In the latter district there have been but 2060 wells completed in the first eight months of the year, compared with 3147 in the similar period last year, a decrease of 34 percent.

Crude Under Control

The relatively strict control of crude production during August resulted, as in earlier months, primarily from the cooperative efforts of Oklahoma, Kansas, Texas, and New Mexico. Those four states all adhered closely to recommendations of the Bureau of Mines. In fact, Oklahoma and Kansas were under the federal recommendations for the month as a whole.

In the meantime, as in preceding months, results in the mentioned four states were partially nullified by excesses in Louisiana and California, the other two of the six leading producing states.

Outside of the six leading states, there was but a slight aggregate excess above the Bureau of Mines recommendation.

The nation as a whole showed a net excess of 92,650 barrels a day above the bureau schedule. That was a sharp increase from the 33,222 barrels per day excess of July. But for several months prior to July, the overproduction had been running above 100,000 barrels daily. Consequently, the results for August compare favorably with those of past months.

August was the third consecutive month in which both Kansas and Oklahoma produced less crude than recommended by the Bureau of Mines. The Kansas underproduction in August was 4721 barrels daily, and that in Oklahoma was 79 barrels daily. New Mexico overproduced 7847 barrels daily and Texas 11,864 barrels a day. Texas had underproduced 3810 barrels daily in July. The August excess for California was 28,039 barrels daily, compared with 24,055 barrels daily in July. Louisiana also showed an increased excess, overproducing 45,867 barrels daily in August, compared with 43,168 barrels daily in July. Outside the six leading states, aggregate production was 3831 barrels a day above federal allocations.

United States Drilling and Production in First Eight Months of 1936 and 1935

STATE OR DISTRICT	WELLS COMPLETED		BARRELS OF CRUDE PRODUCTION	
	In 1936 (8 Months)	In 1935 (8 Months)	In 1936 (8 Months)	In 1935 (8 Months)
Arkansas	70	96	7,256,300	7,495,250
California	752	735	143,889,477	127,148,936
Colorado	8	7	1,105,450	1,044,600
Eastern States	2,060	1,593	26,073,700	25,536,150
Kansas	1,086	834	36,603,850	35,359,100
Louisiana	678	484	51,773,450	31,114,750
North Louisiana	391	194	17,102,750	5,667,500
South Louisiana	287	290	34,670,700	25,447,250
Michigan	513	310	8,497,300	9,593,450
Montana	99	94	3,574,400	2,696,750
New Mexico	380	190	16,464,500	12,241,000
Oklahoma	1,960	1,453	130,717,300	121,373,450
Southeastern States	9	15		
Texas	8,276	7,765	274,364,000	250,376,150
East Texas	2,060	3,147	106,625,600	108,034,500
East Central Texas	166	156	12,680,450	12,143,550
North Texas	1,454	1,437	14,292,200	14,071,200
South Texas	2,140	1,182	19,119,950	14,422,250
Texas Gulf Coast	756	702	58,229,700	43,890,950
Texas Panhandle	437	412	14,916,500	14,515,400
West Texas	954	462	42,298,050	37,102,550
West Central Texas	309	267	6,201,550	6,195,750
Wyoming	52	46	8,864,500	8,639,500
Total United States	15,943	13,622	709,184,227	632,619,086

September is likely to bring about the same degree of success in crude control as that which prevailed in August. Oklahoma, Kansas, Texas, and New Mexico again are adhering closely to the Bureau of Mines recommendations, under allowables prescribed by the state conservation officials, while Louisiana and California continue to show about the same excesses as in the past.

Petroleum Demand High

Although crude production was well in hand during August, it was unusually high, the large output having been justified by the fact petroleum consumption was running at an all-time record level. A new peak in daily output was reached in the week ended August 15, when the American Petroleum Institute estimated production at 3,070,400 barrels daily. For August as a whole, also, crude production set a new all-time record. The output in the United States totaled 93,916,050 barrels, compared with 91,455,208 barrels in July, which had the same number of days as August. The August production represented an average of 3,029,550 barrels daily.

The August production of 93,916,050 barrels was well above the previous all-time peak of 92,165,000 barrels, reported by the Bureau of Mines for August, 1929. The output in July, 1929, had been 91,309,000 barrels.

In the first 8 months of 1936 crude production in the United States has amounted to 709,184,227 barrels daily. That is 12 percent more than the 632,619,086 barrels produced in the first eight months of 1935.

This increase in crude production has been justified largely by the gain that has been made in consumption of petroleum and petroleum products. The Bureau of Mines showed that in the first 6 months of 1936 the total demand for United States oils ran more than 11 percent higher than in the similar period of last year.

Demand has run higher this year than last year for export as well as domestic purposes. Export business has been greater for both crude and refined oils. The gain in domestic demand has embraced increases in consumption of virtually all the petroleum products, including gasoline, kerosene, gas oil and fuel oil, lubricants, wax, asphalt, road oil, and still gas.

Stocks Comparatively Low

Stocks of all oils in the United States currently are around the proportions of early 1927, being therefore the lowest for nearly 10 years. On July 1 the total was down to 550,296,000 barrels, or about 150,000,000 barrels lower than the peak of 700,808,000 barrels of all oils held in storage in May, 1930. During July and August further reductions in the stocks were made.

The Bureau of Mines estimated the nation's total stocks of crude oil on August 29 at 301,786,000 barrels. That estimate indicated that the crude stocks were reduced about 5,000,000 barrels during August. They had been cut down a similar amount in July.

Gasoline Inventories Lowered

Refineries in August were consuming some crude oil from the storage tanks as well as the output of the nation's wells, but they still were not putting out as much gasoline as the markets were absorbing. The plants were being regulated to such extent as to permit withdrawals from gasoline storage for meeting a part of the requirements. Reports of the Amer-

[*Continued on page 16*]

Crude Oil Stocks

Bureau of Mines figures as compiled monthly, comprising all crude in storage in the United States.

At End of:	Total Barrels In Storage
January, 1934	353,642,000
February	531,641,000
March	354,067,000
April	354,350,000
May	355,883,000
June	357,239,000
July	355,260,000
August	350,838,000
September	348,937,000
October	346,415,000
November	341,165,000
December	337,254,000
January, 1935	338,174,000
February	337,319,000
March	339,139,000
April	339,793,000
May	338,559,000
June	334,757,000
July	329,351,000
August	324,966,000
September	320,705,000
October	317,155,000
November	315,558,000
December	314,631,000
January, 1936	313,081,000
February	310,812,000
March	313,189,000
April	315,389,000
May	315,169,000
June	311,046,000
July	306,390,000

Trend of stocks situation since end of July, figures being from weekly reports of Bureau of Mines.

August 8	305,315,000
August 15	304,938,000
August 22	303,108,000
August 29	301,786,000

United States Production

(Based on American Petroleum Institute estimates, which do not include oil that may have been surreptitiously produced.)

MONTH	Daily Average (Barrels)	Federal Estimate of Demand
January, 1934	2,233,505	2,183,000
February	2,239,070	2,183,000
March	2,339,950	2,282,800
April	2,420,950	2,366,200
May	2,575,380	2,366,200
June	2,588,100	2,528,300
July	2,560,550	2,530,300
August	2,475,300	2,449,300
September	2,431,950	2,341,700
October	2,364,150	2,325,800
November	2,375,400	2,340,300
December	2,414,600	*2,307,000 †2,460,300
January, 1935	2,500,850	2,460,300
February	2,521,250	2,526,100
March	2,568,800	2,520,300
April	2,559,750	2,527,300
May	2,601,350	2,561,200
June	2,695,100	2,651,000
July	2,707,150	2,660,000
August	2,676,250	2,600,600
September	2,737,750	2,613,000
October	2,780,850	2,554,200
November	2,825,900	2,563,700
December	2,826,850	2,540,200
January, 1936	2,818,300	2,559,200
February	2,774,450	2,648,100
March	2,828,750	2,738,900
April	2,914,600	2,797,300
May	2,976,053	2,826,300
June	2,953,908	2,838,300
July	2,950,522	2,917,200
August	3,029,550	2,936,900

*December 1-16.
†December 17-31.

Wells Completed in the United States

(Including Oil Wells, Gas Wells, and Dry Holes)

MONTH	Daily Average
January, 1933	30.0
February	30.6
March	26.6
April	25.5
May	25.6
June	21.1
July	23.1
August	30.7
September	36.5
October	40.9
November	46.9
December	47.7
January, 1934	39.7
February	38.1
March	40.6
April	44.0
May	50.7
June	51.5
July	53.6
August	51.3
September	43.2
October	49.6
November	49.9
December	48.3
January, 1935	47.9
February	49.6
March	48.8
April	58.5
May	63.6
June	58.6
July	60.9
August	62.8
September	57.9
October	57.1
November	55.2
December	54.2
January, 1936	52.4
February	51.6
March	60.6
April	69.2
May	*71.9
June	70.9
July	66.6
August	70.4

***Highest since July, 1930, when completions averaged 76.6 daily. Average dropped in August, 1930, to 52.4 and remained below that figure until July, 1934.**

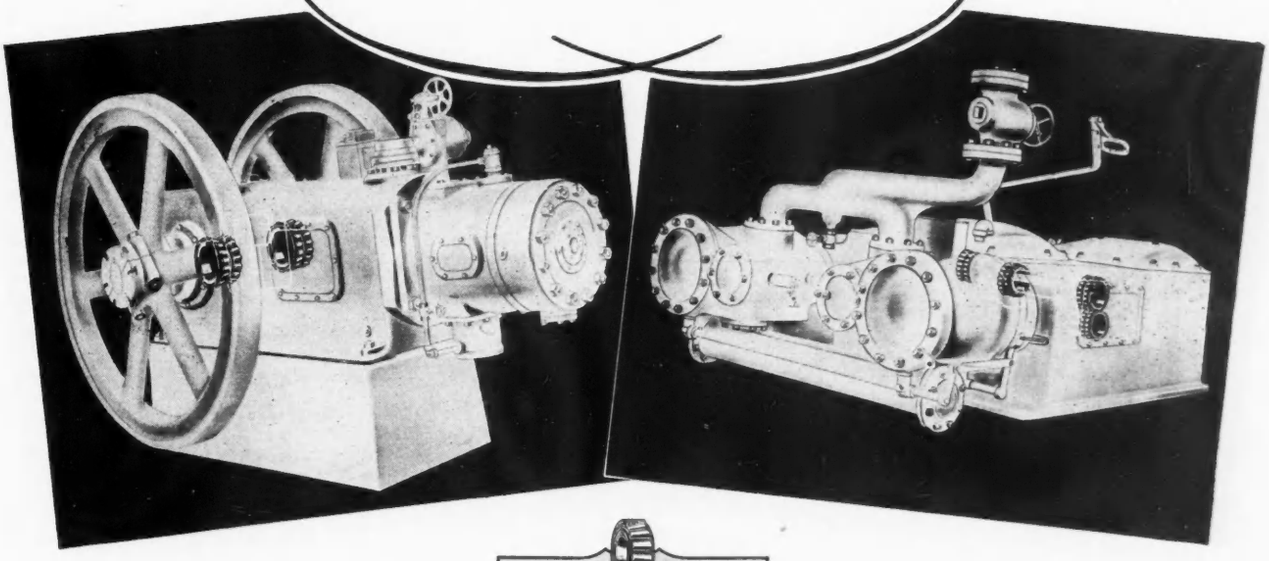
Finished Gasoline Stocks

(American Petroleum Institute figures, as shown in weekly reports)

DATE	Total Barrels Reported
March 31, 1934	†57,098,000
April 28	56,011,000
May 26	54,493,000
June 30	51,405,000
July 28	48,597,000
August 25	46,120,000
September 29	43,850,000
October 27	41,993,000
November 17	*39,892,000
December 1	40,831,000
December 29	43,969,000
January 26, 1935	47,888,000
February 23	54,399,000
March 2	55,654,000
March 16	†57,406,000
March 30	56,388,000
April 27	55,097,000
June 1	53,180,000
June 29	50,007,000
July 27	48,157,000
August 31	43,787,000
September 28	42,976,000
October 26	41,163,000
November 9	*40,780,000
November 30	43,190,000
December 28	46,472,000
January 25, 1936	50,368,000
February 1	52,831,000
February 29	60,881,000
March 21	†62,855,000
March 28	62,559,000
April 25	61,638,000
May 30	59,589,000
June 27	57,263,000
July 25	54,087,000
August 1	53,222,000
August 8	51,461,000
August 15	51,404,000
August 22	50,624,000
August 29	49,952,000

*Low point of year.
†High point of year.

X-RAY VIEWS OF MODERN OIL FIELD ENGINES



Tapered Roller TIMKEN BEARING EQUIPPED

A symbol of quality for any piece of equipment with which it is associated

A sure mark of modern-ness in oil field engines — gas or steam—is the presence of Timken Bearings on the crank shafts of gas engines and the crank shafts and crank pins of steam engines.

No matter how good an engine may be, it will be a better engine if it is equipped with Timken Bearings. Timken Bearings assure smoother crank shaft operation; protect the crank shaft against wear, radial-thrust loads, and uneven cylinder pressures; and hold the shaft in correct and constant alignment. Lubrication is simplified and bearing burn outs prevented.

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THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *TAPERED ROLLER* **BEARINGS**

MEN IN THE INDUSTRY'S NEWS

V. O. HARRIS, Humble Oil & Refining Company district petroleum engineer, was transferred from the Talco district to the Gladewater district.

G. M. CHAFFEY, Humble Oil & Refining Company district petroleum engineer, was transferred from the Gladewater district to the Talco district.

ROBERT J. SHORT of El Dorado, president of S.H.A. Oil Company, has been appointed a member of the Arkansas Board of Conservation, succeeding M. E. Wilson, who recently resigned when he moved from El Dorado to Shreveport, Louisiana. Other members of the Arkansas Board of Conservation are: J. S. Brooks, chairman; O. G. Murphy, Ed Hollyfield, and J. D. Reynolds. C. E. Harris is chief agent of the board.

E. E. MAGILL, Humble Oil & Refining Company district chief clerk and warehouseman in the Raccoon Bend district, was transferred to the Gulf Coast division office as assistant division chief clerk and warehouseman.

J. C. FANT, Humble Oil & Refining Company assistant district chief clerk and warehouseman in the Raccoon Bend district, was promoted to district chief clerk and warehouseman to replace E. E. Magill.

K. D. OWEN and David Hedley were the speakers at the regular weekly meeting of the Houston Geological Society September 10, discussing the Placedo field of Victoria County, southern Texas.

JACK A. SCHLEY, patent lawyer, announces the moving of his Houston Office from 805 Second National Bank Building to 2106 Second National Bank Building.

HUMBLE MAKES CHANGES IN SEVERAL DEPARTMENTS

VARIOUS changes in the organization of Humble Oil & Refining Company have been announced.

L. P. Teas has been appointed to fill a newly established position of assistant chief geologist, at Houston. He formerly was division geologist for the Gulf Coast.

Morgan J. Davis has been appointed division geologist for the Gulf Coast, replacing Teas in that position.

Activities of the geologic, lease, and scouting department in New Mexico will be placed under J. Ben Carsey, who will be stationed at Midland, Texas. The company will maintain the district office at Roswell, New Mexico, but the men in that office will report to Carsey at Midland.

H. C. Victery, district land man at New Orleans, has been transferred to Houston.

C. E. Cook will replace Victery as land man at New Orleans .

L. V. Manry has been appointed division land man of the Southwest Texas division, with headquarters at Corpus Christi, replacing J. V. Adams, who has resigned.

MAJOR JOHN BRYCE SHAW, of the land department of The Ohio Oil Company at Ardmore, Oklahoma, is serving with the Eighth Corps Area General Staff at Fort Sam Houston, Texas, during the war game of the Third Army. Major and Mrs. Shaw are guests of the Fort Sam Houston Arms Apartments during their stay in San Antonio.

C. H. WILSON, Humble Oil & Refining Company chief clerk and warehouseman in charge of the Hurdle district, was transferred to Judkins as district chief clerk and warehouseman.

A. LYNDON BELL, geologist for Colombia Petroleum Company, at Cucuta, Colombia, S. A., is on a vacation in the United States. Bell left the United States in 1933 as a geologist for Venezuela Gulf Oil Company. Until April, 1935, he was in Eastern Venezuela, when he was transferred to Colombian Petroleum Company.

DIED:

WILLIAM J. COLLIER, 64, Tulsa, died September 5. He came to the United States when 17 years of age, and gained employment with South Penn Oil Company. In 1894, he was made superintendent of production for Murphy and Jennings Oil Company at Wetzel, W. Va. In 1906, he was transferred to Tulsa as general superintendent of Quaker Oil Company, a subsidiary. Later he was in charge of oil production for Inter-Ocean Oil Company when it was sold to British-American Oil Producing Company. He continued with British-American Oil Producing Company as superintendent of drilling in Oklahoma, Kansas and Texas, until he became associated with George W. Snedden, Jr., in East Texas.

WILLIAM O. CHILDS, independent Tulsa operator, died at his summer home, Walker, Minn. Childs had followed the oil game from its early days in Pennsylvania into all the eastern states, Mexico, Kansas, Oklahoma and Texas.

JOHN GRIBBEL, chairman of the board of American Meter Company and of Tampa Gas Company, died at the age of 78 at his summer home at Camden, Maine, August 26. Gribbel, director in nearly a score of companies, had been prominently identified with the gas industry for 53 years. He was born March 29, 1858, in Hudson City, New Jersey.

C. W. CAHOON, 68, of San Francisco, died September 4. He was buried at La Grange, Missouri, on September 7. Cahoon was a well known oil man. At one time he was local agent at Houston for the old Waters Pierce Oil Company, and later was made vice president and general manager of Pierce Oil Corporation with headquarters in New York. Afterwards, he became president of Cities Service Export Oil Corporation. He retired five years ago and moved to San Francisco.

FORD TURNER, scout and land man for Pure Oil Company in West Texas with headquarters at Odessa, is on a temporary sick leave and departed last week for his former home at Columbus, Ohio.

H. A. MELAT, retired general superintendent of production for Gulf Oil Corporation in the Fort Worth division and now a resident of Wichita Falls, has returned from a lengthy vacation in Colorado. Melat purchased several stripper-well properties in North Texas shortly after terminating his long and active service with Gulf Oil Corporation in order to keep in practice.

P. H. KELLY, Humble Oil & Refining Company assistant division chief clerk and warehouseman in the Gulf Coast Division, was transferred to Corpus Christi as division chief clerk and warehouseman of the Southwest Texas Division.

C. H. LIEB, president of The Carter Oil Company, Tulsa, accompanied by members of his family, spent several days last week attending the Centennial shows at Fort Worth while enroute home from a vacation spent in New Mexico.

E. A. GOLDSMITH, Humble Oil & Refining Company division chief clerk and warehouseman of the San Antonio division, was transferred to the Houston Office.

WILLIAM MONROE LAYTON, head of Layton Oil Company, Inc., has opened a new southern office at Shreveport, Louisiana, and is now located there. His eastern headquarters are at 40 Wall Street, New York.

M. T. HARTWELL, geologist for The Texas Company, has been transferred from Wichita Falls, Texas, to the company's Fort Worth office.

WIRT FRANKLIN TO HEAD CONSUMERS EXPOSITION

WIRT FRANKLIN, president of Wirt Frankin Petroleum Corporation, of Ardmore, Oklahoma, has accepted chairmanship of the national executive committee of the First International Consumers Petroleum Exposition to be held in Convention Hall, Detroit, December 5, to 13, inclusive.

The exposition, the first ever held by the petroleum industry for the benefit of the consuming public, is expected by those behind it to be the largest oil show arranged by the oil business. The exposition management has arranged for use of the entire hall for exhibits by oil companies, petroleum trade associations, colleges with petroleum courses, cities closely allied with the oil business, and manufacturers of equipment and accessories using petroleum or used in connection with the petroleum industry.

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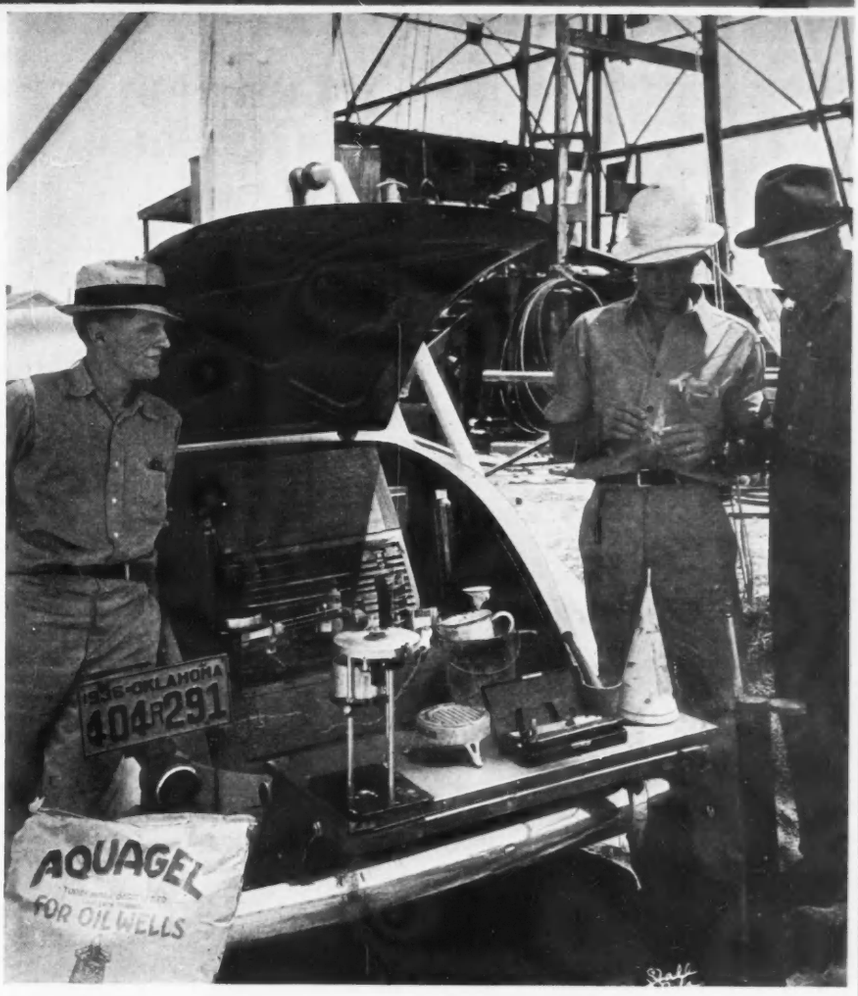

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Bureau June Report

SHOWS JULY PRODUCTION TO BE UNDER THAT OF JUNE

WASHINGTON.

FURTHER decline in daily average production, from 3,006,000 barrels in June to 2,970,000 barrels, brought July oil output to 92,078,000 barrels, according to the monthly report of the Bureau of Mines released September 10. Production for the month was nearly 2,000,000 barrels greater than the June output of 90,185,000 barrels and approximately 6,600,000 barrels over the July, 1935, production of 85,485,000 barrels, it was announced.

The decline in production in July was fairly well distributed, the bureau said, all of the three leading states showing decreases. Daily average production in East Texas dropped about 22,000 barrels to an average of 444,700 barrels, while the remainder of the state showed a small increase; the average for the state as a whole declined 20,000 barrels to 1,158,700 barrels. Most of the California fields showed small declines, the state's average dropping from 581,500 barrels to 574,500 barrels.

Oklahoma City production increased but was offset by decreases in other fields. Production in Louisiana showed a slight increase, with small gains in the coastal fields and Rodessa offsetting declines elsewhere.

Daily average crude runs to stills were 2,958,000 barrels, or 9000 under the June average, but despite this decline, the bureau reported, withdrawals from storage increased. The net withdrawal from refinable crude stocks in July was 4,656,000 barrels, leaving them at 306,390,000 barrels at the end of the month.

The percentage yield of gasoline continued to increase in line with the approach of the peak demand, the average for July being 44.6 percent compared with 44.4 percent in June.

"A new high mark for indicated consumption of motor fuel was set in July, when the indicated domestic demand was 46,692,000 barrels, a daily average of 1,506,000 barrels," the report commented. "This represents a gain of nearly 13 percent over the demand of a year ago. Exports of motor fuel were 2,369,000 barrels, or slightly above the total in June. Stocks of finished and unfinished gasoline declined 4,931,000 barrels to a total of 62,446 000 barrels. This total is about 10,000,000 barrels over the economic level for October 31, 1936; in other words, it would be desirable to have the withdrawals for August, September and October approximate 10,000,000 barrels.

"As expected, the respective daily average indicated domestic demands for kerosene and fuel oil declined and those for lubricants, asphalt and road oil increased."

—International News Photo.

A dense column of black smoke rises over Malaga, Spain, government-controlled seaport on the south of Spain. The Campsa petroleum depot and Georgia Oil Company's tanks are in flames following a bombardment by rebel airplanes. Over 3,000,000 gallons of crude oil and petroleum products went up in smoke. This photograph was taken from the British Destroyer Wolsey.

INDICTMENT SUIT

Three concerns protest court's jurisdiction

TULSA.

THREE oil concerns, under indictment at Madison, Wisconsin, on charges of violating the anti-trust statutes, have filed motions challenging the jurisdiction of the federal district court there. Mid-Continent Petroleum Corporation, Skelly Oil Company, both of Tulsa, and Deep Rock Oil Corporation, Chicago, are the latest to take that means of shifting trial of the case elsewhere. This motion will be heard December 1, when similar motions will be considered by officials of most of the firms on similar pleas.

The motions set out that if the crimes were committed as charged they were committed outside of Wisconsin and therefore are not subject to indictment there.

Favorable Situation

[*Continued on page 12*]

ican Petroleum Institute indicate that total stocks of finished and unfinished gasoline were reduced around 4,500,000 barrels during August. The total had come down to 60,433,000 barrels on August 29 from 64,827,000 barrels on August 1.

Companies reporting to the American Petroleum Institute revealed that they held 49,952,000 barrels of finished gasoline on August 29. That total was about 14 percent higher than the amount on hand a year previously. Such an increase in stocks was only partially justified by the gain that has occurred in gasoline consumption. In the first six months of 1936 the domestic demand for gasoline was 10.7 percent higher than for the similar period last year. However, the gain in consumption has been accelerated in recent months. The domestic demand for gasoline in June, 1936, ran 18 percent higher than in June, 1935. Gasoline consumption has continued exceptionally high, moreover, during July, August, and September.

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REPRESENTED IN THE OIL COUNTRY

By

National

World's Experts Discuss Oil

RESERVES, CONSERVATION AND OTHER ECONOMIC STUDIES ARE FEATURE OF FUEL CONFERENCE

By BERTRAM F. LINZ, Staff Writer

WELCOMED to the United States by Secretary of State Cordell Hull with a plea for world peace, nearly 3000 government officials and engineers met in Washington July 7 for the Third World Power Conference.

Featuring a discussion of all phases of the oil situation, including reviews of the NRA code and of governmental control in this and other countries, and the efforts which are being made by various nations to develop self-sufficiency in oil, the conference was the greatest gathering of international experts to meet in Washington since the disarmament conference of 15 years ago.

Abandoning the formal address of welcome which usually marks international gatherings, Secretary Hull seized upon the opportunity presented by the conference to warn the world that another general war now would set loose forces that would be beyond control and "which might easily bring about a veritable shattering of our civilization."

Split into sections because of the number of delegates and variety of subjects, the conference considered the subjects of oil and coal during the first session, with a number of papers presented on the former subject showing the progress of the industry in various countries and suggesting means for conserving petroleum resources.

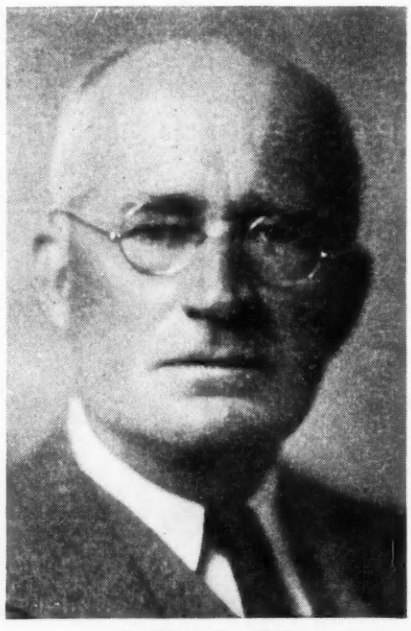
The oil discussion was presided over by J. Edgar Pew, vice president of Sun Oil Company, Philadelphia, with Andres Roszlosnik, minister of agriculture for Argentina, as associate chairman, and E. B. Swanson of the petroleum conservation division of the Interior Department as general reporter.

In his review of the papers as general reporter, E. B. Swanson pointed out that while their discussion naturally followed the particular interests of those attracted by some special phase of industrial organization, several tendencies are common to the organization described in many of the papers.

"The petroleum industry, directly and through the consumption of its products," he emphasized, "is an important source of revenue through import duties or other forms of taxation imposed by government.

"It appears that legislation more directly affecting the organization and operation of the industry results when the correction of economic maladjustments requires assistance," he continued. "Dr. Schaetzel, for Poland, tells of an oversize refining industry supplying a static demand; of a voluntary endeavor to stabilize markets, which seemingly failed through the nonparticipation of smaller individual interests, and of a subsequent government-supervised and compulsory procedure for the establishment of marketing quotas for the stabilization of the industry. In the United States, on the other hand, Dr. Pogue describes a dynamic demand which will equal the efficient refining capacity of the country within a year unless additional installations are provided, the governmental interest is described as emanating from the multiplicity of small producing tracts and aiming to prevent the physical and economic wastes which result from the unmodified operation of the rule of capture. In a number of countries, such as Great Britain, France and Germany, the lack of balance between an indigeneous supply and the home demand has resulted in several measures of encouragement of exploration and the development of alternative or substitute products.

"It appears, too, that when there has been direct governmental participation in the oil industry, the pressure generated by the consumers has brought about some form of price control or price fixing; directly, as in France; through high import duties, as in Germany and other countries; or through government-sponsored competition, as in Argentina."



J. EDGAR PEW

Vice President of Sun Oil Company, presided over the oil sessions at Third World Power Conference.

★ Cadman stresses need of petroleum conservation

Sounding a grave word of warning that the time has come when economies in production and use of oil must be adopted to retard as long as possible the inevitable exhaustion of reserves, Sir John Cadman, chairman of Anglo-Iranian Oil Company, told the conference, in a paper on conservation from the British point of view, of the successful experiments conducted in Iran in unit operation and underground storage.

Admitting that conditions in the United States in the past have been such as not to encourage economic exploitation of oil resources, Sir John declared that the total production required from the East Texas field could have been provided by many less wells than the more than 20,000 already drilled.

In contrast to the situation in East Texas, he cited that of the Kirkuk field of Iraq Petroleum Company, where a total of some 45 wells has been sufficient for effective delimitation of the field and to meet the requirements of their 1170-mile pipe line to the Mediterranean coast, having a capacity of 30,000,000 barrels a year, production in 1935 approximating 27,000,000 barrels. Also, he pointed out, in the Haft Kel field of Anglo-Iranian Oil Company, from which approximately 27,000,000 barrels were produced last year, a total of some 40 wells has been sufficient. Both figures, he added, include early exploratory wells which, as is to be expected, contain a number now redundant to requirements.

Discussing the desirability of limiting the expenditure of gas energy to a minimum and the advisability of maintaining constancy throughout a field of

SIR JOHN CADMAN

The time has come when economies in production and use of oil must be adopted.

the fall in gas-oil level and rise of oil-water level in order that the greatest measure of drainage may be secured, the paper explained that in Iran it has been the practice for many years to control these levels." The full text of Sir John's paper appears elsewhere in this issue of THE OIL WEEKLY.

★ Pogue discusses American economic needs

Furtherance by the American petroleum industry of a consistent policy of relatively low prices so long as potentials are large and the discovery rate shows any tendency to exceed the production rate, and so long as maximum demand is a desideratum in maintaining balance; promotion of retarded field drilling through wider well spacing and unit operation; advocacy by state regulatory bodies of formulas for lease allowable that will normalize, and not overstimulate, drilling; and support by state regulatory bodies of prescribed programs of wide well spacing, were seen as fundamental needs by Joseph E. Pogue, New York consulting engineer, in an analysis of the economic forces that govern the functioning of the domestic industry.

The American industry, Pogue pointed out, is distinguished from the industry in most other countries by the prevalence of oil fields of subdivided ownership and "under the impact of the rule of capture, this circumstance gives rise to an uneconomic phase of interlease competition which constitutes a handicap that the industry has succeeded in mitigating through the development of unit operation and proration, but has not yet eradicated.

"Functional integration, the necessities of continuing discovery, and the influences set up by the rule of capture," he declared, "will go far toward providing the basis for an economic analysis of this large and important component of the national economy."

"The production of oil, under conditions prevalent in the United States," he told the conference, involves a "stubborn economic problem, or rather an issue that became obdurate when the industry matured and technological progress reached a state of high proficiency.

"The problem is the result of the asymmetrical character of the production mechanism," he explained, "that is to say, the mechanism is such that it accelerates more readily than it retards. The principal cause of this unbalanced reaction is the incidence of a special type of competition, arising from a legal technicality, superimposed upon the normal elements of industrial competition. This anomaly is the rule of capture, which ascribes ownership not to the oil in place but only to the oil when reduced to possession. Thus, wherever an oil field is composed of areas of divided ownership, drilling is motivated not by economic conditions (as reflected in price) but by the necessity imposed upon each operator to capture his oil before it is drained by his neighbor. As a result of this circumstance, oil fields tend to be drilled rapidly and without due regard to the requirements of approved engineering practice and the needs of the market."

No American industry has faced a more difficult series of problems in its development than has the oil industry, Pogue declared. "The requirements of a dynamic market in fields that have changed the nature of modern industrial civilization have been imposing but have been satisfied," he said. "A brilliant body of technology has been constructed to meet the specialized requirements of every department of the undertaking, and vistas are opening up of continuing advancement in new and ingenious directions. The problems of equilibrium have been intricate and at times apparently insoluble, because of the handicaps imposed by the rule of capture; and yet a new mechanism has been evolved by the industry, with the cooperation of the oil-producing states and the federal government, which has made headway in meeting even this difficult and obdurate issue. The economic structure of the industry has adapted itself to the requirements of lessening costs, with resultant reflection in price, so that the consumption of petroleum products has never been retarded by undue claims upon the existing purchasing power of the public.

"The problem of economic equilibrium in the petroleum industry in the interim is not wholly solved. The proration mechanism has not yet been perfected, either in structure or in application. It can be impaired if price fixing is permitted to enter into its operation, for the existence of a flexible price structure is essential to its adequate development. Its administration needs to be developed so that unnecessary wells are not required under its rulings and the rate of drilling may be accorded bilateral flexability in responding to economic influences. The state production quotas provided by the United States Bureau of Mines deserve readier acceptance by the state conservation commissions, and the distinction between a crude-oil quota balanced against refiners' demand and one equated to the consumers' demand for products requires a clear perception on the part of all those interested in equilibrium. Nevertheless, a pragmatic, flexible plan of action has been in course of evolution for a period of 10 years, and the essential framework of a workable operating structure has already been established.

JOSEPH E. POGUE

Oil first great U. S. industry to develop new method of conducting its business.

"The oil business in the United States is the first great industry to develop a new method of conducting its business, having altered the design of its economic structure in order to make the enterprise more susceptible to regulation by the ordinary laws of economics and to free it from the disturbing influences of the unchecked operation of the rule of capture. The industry is experimenting with a new economic form. The further evolution of proration will afford a fascinating case history of an effort by competitive enterprise, with our existing legal background, to find a practical solution for a complicated problem of unique character. Much progress has already been registered toward a workable answer."

★ Conservation problem in the U. S. complicated

The conservation problem in the United States is complicated because of the evolutionary pecularities of the petroleum and natural gas industries, the relation of these industries to each other as to sources of supply, their competition for market outlets, and the various and varying policies of governmental interest and control, the conference was told September 9 in a paper prepared by the Bureau of Mines.

"A treatment of the complicated subject of conservation of petroleum and natural gas," the report commented, "invariably entails discussions of waste; for, although these words are not antonyms in the exact sense, the apt statement has been made that 'the antidote to waste is conservation'.

"A salient fact respecting conservation of petroleum and natural gas resources in the United States," the bureau commented, "is that the situation is much better than it was prior to the World War when, for the first time, the petroleum industry in this country was forced to appraise its

then known limited reserves. On the whole, the petroleum and natural gas industries have improved their practices through constant application of technical knowledge, and thereby have lessened waste without the continual goad of price influence more assiduously than any extractive industry of similar magnitude."

Leaders in the industry and those concerned with its management, as well as engineers and others engaged in operation of oil and gas properties, now recognize that most of the physical waste of oil and gas from underground petroleum reservoirs is unnecessary and usually is due to unscientific methods. Epoch-making research and field studies have developed a broader understanding of uneconomic practices such as over-drilling and overcrowding of wells, production of oil with high gas-oil ratios, and unnecessary dissipation of reservoir energy in oil production, it was pointed out. Chemists are searching for new and more efficient ways of converting oil and gas into the hundreds of products that serve the existing and ever-changing needs of society. More slowly, the consuming public is beginning to recognize some of the results of these scientific developments in conservation that will benefit the future social order; and the judiciary now can interpret legal principles and statutes in the light of a better understanding of physical laws.

But "other changes must come," it was added, "and who can say but that another decade of research and practical application of scientific findings will show the best present methods of extraction, refining and processing to be inefficient and 'wasteful' and legal interpretations to be archaic in the light of the advanced knowedge of that future period."

Discussing the importance of gas conservation in oil production, the bureau contended that credit should be given for the progress that has been made in conserving gas in underground reservoirs to aid in the efficient production of the associated petroleum, although admitting that the industry today "probably does not know the full importance of natural gas in the production of oil" and some operators are failing to make maximum use of known benefits.

One of the wastes in oil production is the premature abandonment of wells of small output during periods of overproduction, which results in substantial hidden losses in ultimate recovery. "Unfortunately," it was pointed out, "oil wells cannot always be shut in for indefinite periods with assurance that they can be operated again at a profit."

One of the most perplexing and as yet unsolved problems pertaining to the prevention of waste in production is that of well spacing to recover the maximum quantity of oil at minimum cost, the bureau held.

However, it added, despite the many avenues of waste that might be pointed out, the tendency of production methods now in use is to recover an increasing proportion of the oil originally contained in the reservoir formations.

The report went into detail with respect to the various phases of conservation and the methods of approach to the solution of that problem, including research, proration by fields, unit operation and interstate compacts.

"Some form of production control, whether it is called allocation of production, proration, or by another name, undoubtedly will continue in the United States of America. In fact, allocation of production at some future time may involve the necessity of making allotments between competing fuels.

"In conclusion, the present status leads to the belief that commendable progress has been made in the direction of true conservation of petroleum and natural gas in the United States, despite recent special evidences of waste that may be cited to the contrary. Conservation problems peculiar to the natural-gas industry, as such, have been pointed out, with some suggestion as to remedial measures in effect. The refining branch is striving to improve its present high efficiency in converting raw material into finished products.

"On the production side, the outstanding feature is that gradually a new concept of neighborly conduct is being formed through a better understanding of the mechanism of oil and gas structures and the correct methods of producing and apportioning petroleum and natural gas, thus giving assurance that each owner shall receive his fair share without the overproduction and waste that attend operations under the outmoded interpretation of the 'rule of capture' and offset drilling."

★ Rule of capture is cause of rapid field depletion

The "rule of capture," adopted in the early days of the industry, has been responsible for the rapid depletion of many American oil fields and much waste of oil and gas, the conference was told in a symposium prepared by E. DeGolyer, director of the American Petroleum Institute; Noel Robinson, vice president, Tide Water Oil Company; Robert Hardwicke, of Fort Worth, and Myron M. Watkins, professor of economics at New York University.

"No clear understanding of the development of petroleum production in the United States can be had without a consideration of the legal status of property rights in oil underground," DeGolyer declared. "Since the earliest days of the industry, it has been commonly held that the owner or lessor of a tract of land who drills wells thereon acquires title to the oil and gas which are produced from such wells though it be proved or admitted that some of the oil and gas drained to the wells from adjoining lands. This very practical solution of the problem of ownership, based on an admitted inability to determine with reasonable accuracy the source of production from any well, is generally referred to as 'the rule of capture.' The competition engendered by it between the owners of adjoining lands or leasehold, in their race to tap the common pool of oil, numbers of wells drilled and volume of oil produced, has controlled the manner of development and exploitation of our oil pools throughout most of the life of the industry."

operations are carried on.

He also stressed the part played in the industry by exploration, and defended it against charges of waste, much of which has not been eliminated, waste of the gas produced with oil probably being the greatest single waste of which the industry is now guilty.

"There are many people who believe that production control, especially by limiting production to the reasonable market demand, was nothing but a device to bolster prices," it was pointed out by Hardwicke in a discussion of the code effort of 1933 and the state-government control which now prevails in many oil areas. "There are others who say that the general conditions in 1929 and 1930 simply furnished the opportunity to bring about production control and more scientific methods of production which would not have been tolerated so readily under different economic conditions. It is wholly immaterial what are the facts. It may be true that production-control measures were instigated with the price factor dominant, but it is true beyond doubt that the industry soon learned that, from an engineering and production standpoint, and solely for the purpose of increasing the ultimate recovery, strict production control was highly desirable."

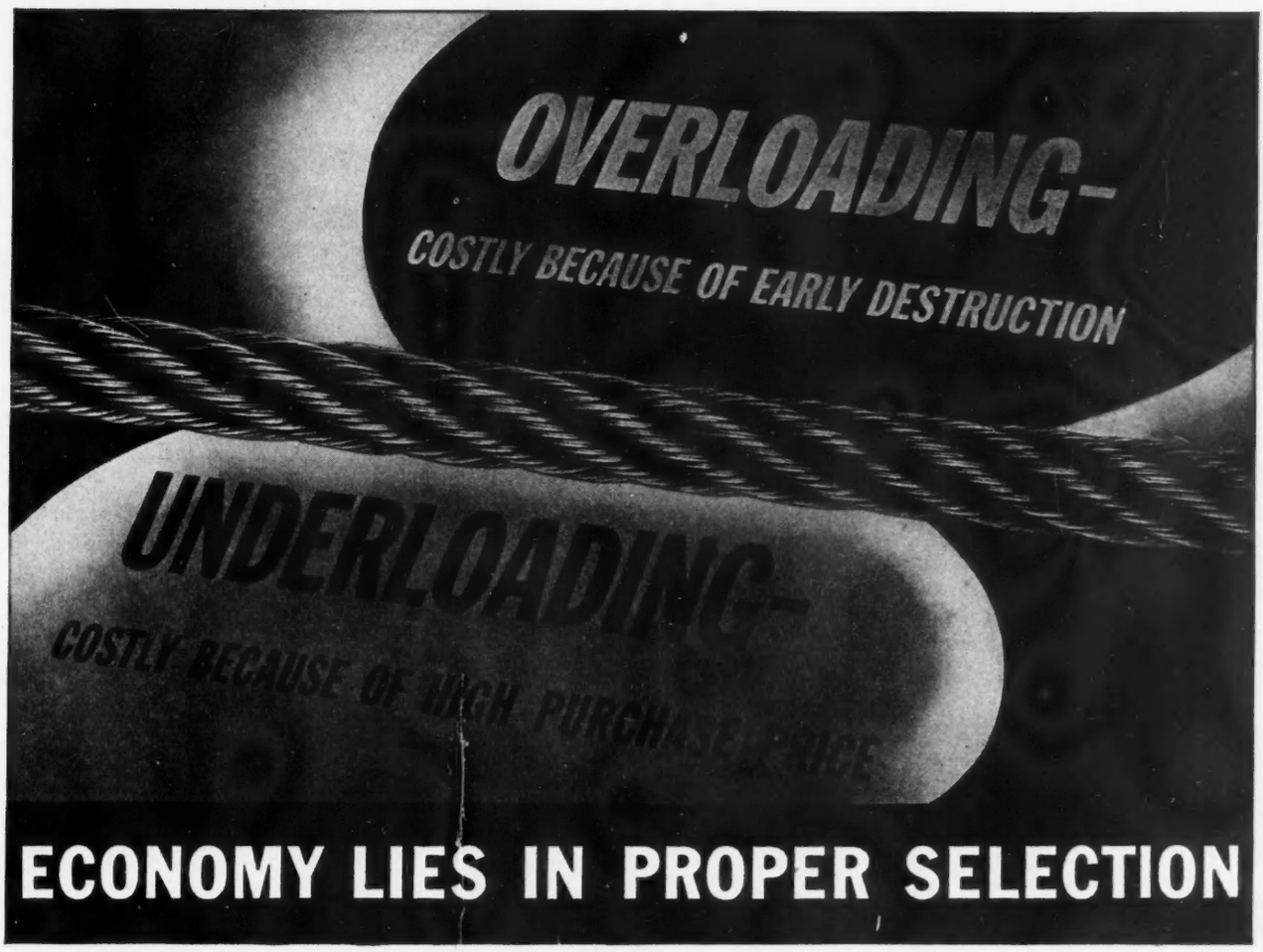
"Though it may be true, and it has been so argued," he said, "that the Congress of the United States may prohibit absolutely all importation of crude petroleum and refined products, and though Congress may have the power to fix an import duty which will have the effect of stopping all imports of either crude petroleum or refined products, it is not clear that either plan would be desirable.

"For instance, the producers of petroleum in Venezuela, Colombia and Mexico, who are now importing into the United States, are also exporters from this country. Some of them already have large refineries on foreign soil. The others could quickly build or enlarge them."

The importance of the role played by petroleum in the national economy today is reflected in the fact that its annual gross income exceeds that of any other branch of industry, including railroad transportation, with the single exception of agriculture, it was pointed out by Professor Watkins. But the

R. E. HARDWICKE

Control of production has been highly desirable.



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problem of oil, he added, is that there is always too much or too little.

Also discussing the question of control, he asserted that "an enduring stability of the petroleum industy will never be realized until it is reorganized upon a basis which admits to responsibility in the formulation of its basic policies, and the control of its operations, representatives of a public interest which is paramount in all industries but singularly vital in this industry. The conservation of a nation's supply of this irreplaceable natural resource can never be safely entrusted to the self-seeking, short-sighted strategems of special-interest groups. Nor, on the other hand, can the current interests of consumers ever be adequately safeguarded or salutarily promoted by a scheme of industrial control which makes the cultivation of those interests at best an incidental by-product in the pursuit of other ends, instead of the fundamental reason for its being."

Despite the rich historical background of progress in the technique of oil refining and the advancement from the primitive type of still to the modern single refining unit, there is still much to be expected from future developments in the art of refining, the conference was told by Robinson.

"The industry," he said, "is steadily becoming more closely allied with the chemical industry and with chemical engineering. The process of hydrogenation, though not generally economic today except in a restricted field of special products, has pointed the way to the eventual synthetic production of both fuels and lubricants from comparatively low-grade raw materials.

"Increased production of chemical by-products offers an unlimited field for future development. The continued application of scientific research to crude oil itself and to the fractions obtainable therefrom is expected to advance still further the art of refining. The oil refinery of 1950 will probably bear as little resemblance to the refinery of 1936 as the plant of today bears to the plant of 1915. New crudes, new products, new applications of engineering technique, new automotive, industrial and transportation developments will always confront the petroleum refiner and challenge him to provide an adequate economic supply of all types of petroleum products so indispensible to our modern life."

★ Possibilities of new oil sources are discussed

Rapid diminution of available oil resources presents a serious problem as to the replacement of these resources to meet the rapid growth in demand for oil and its by-products, it was pointed out September 10, by W. S. Finlay, Jr., president of West Penn Electric Company, in a discussion of conservation of natural resources.

"Various authorities estimate the total oil resources of the United States at about 12,000,000,000 barrels," Finlay pointed out, "and at the present rate of consumption an acute shortage will occur within possibly a few years, and our present reserve oil supply will probably be exhausted within a comparatively brief time." He then went into a discussion of the possibilities for a new source of oil, stressing the manufacture of it from coal and sale.

Ten papers, descriptive of the oil industry in as many countries, were presented to the oil session for its consideration.

★ Self-sufficiency is hope of German oil industry

National self-sufficiency in the field of oil is being sought by Germany which is spending between 4,000,000 and 5,000,000 reichmarks annually in experimental drilling, it was disclosed by Professor Dr. A. Bentz in a paper on German production, refining, distribution and conservation of oil and natural gas.

Until 1934, it was stated, all efforts

DR. A. BENTZ

Oil has been found in several German areas since 1934.

to discover new sources failed, but as a result of the exploration program now under way oil has been found at Forst in Baden, Molme near Hildesheim, Fallstein near Halberstadt, Gifhorn in Hanover, and Heide in Holstein, and studies are being made of promising geological formations in the sub-Alpine Plateau, between the Alps and the Danube; the Rhine-rift valley, between Bale and Frankfort; the central German anticlines between the Thuringia Forest and the Harz Mountains, and the territory of the north German lowlands.

German petroleum production has been increased materially since 1930, when it totaled 173,842 tons, to 1934, when it reached 314,602 tons, Dr. Bentz reported. The increase has been due entirely to larger production in Nienhagen Dannhort, Prussia, where output increased from 83,772 to 240,733 tons, production from other Prussian fields and in Thuringia declining heavily.

All told, Dr. Bentz related, about 4000 wells have been drilled in Germany, of which over 3200 are shallow wells with a depth of only 300 meters.

With consumption several times greater than production, Germany feels herself poor in petroleum, and, accordingly, is seeking to develop substitutes, largely from the coking, carbonization or hydrogenation of pit and brown coal. Further economy in consumption of gasoline is secured by the obligatory admixture of alcohol, and by the use of liquid gas as a substitute. With respect to the latter, it was said, recent research has developed processes for transforming liquid gas into gasoline.

"Measures against the overproduction of mineral oil are naturally unnecessary in Germany and are not to be expected," Dr. Bentz explained. "On the contrary, particular stress must be laid upon the best possible utilization of all sources of raw materials, in order not to increase the demand for foreign currency. Careful handling of motor fuels in the motor is therefore desirable. Furthermore, the government is promoting efforts to gather used lubricating oil, as far as possible, and to restore it to its original usefulness.

"Furthermore, what interest the state is taking in the petroleum production and its processing may be seen from the fact that statistical surveys in the mineral-oil industry, just as well as all other statistical surveys in Germany, are carried on by the Statistical Reich Office and are also published by it. Research institutes and societies which are interested in technical and scientific experiences and problems of the German motor-fuel consumption operate partly with state grans; much, however, is left in this sphere to the initiative of the firms."

★ Attempts are being made to find oil in England

Efforts to determine whether any exploitable petroleum resources exist in England, traces of which were found by the government in test borings made between 1918 and 1922, were outlined in a paper prepared jointly by the British Petroleum Department and the British National Committee of the World Power Conference.

New laws adopted in 1934, clarifying the original petroleum production act of 1918, vest ownership of any oil which may be found in Great Britain in the Crown.

The original tests resulted in a well producing oil in recoverable quantities and traces of oil in five other borings, but the 1918 act had so many shortcomings that production on any extensive scale was impossible. These difficulties are removed by the 1934 legislation, under which prospecting licenses have been issued for areas up to as much as 200 square miles each. The act provides that royalty payments and other financial considerations shall be settled between the licensees and the Board of Trade, and licenses may be granted to nationals of foreign countries which give reciprocal treatment to British nationals, subject to certain restrictions which are held not in any sense onerous or difficult to comply with.

Since the passage of the 1934 act, it

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was reported, prospecting licenses covering an area of more than 7000 square miles have been granted.

The United Kingdom is the third largest oil-consuming country in the world, it was pointed out. Petroleum products consumed have increased in 15 years from 3,400,000 metric tons to nearly 10,000,000 metric tons. Comparatively small quantities of home-made substitutes are used, although a plant for the hydrogenation of coal and coal tar has recently been established, designed to produce motor fuel at the rate of 150,000 tons a year.

There are 17 refineries in Great Britain and two main groups of distributors, one the national companies which control the bulk of the trade and the other independents, most of which specialize in particular products.

Imports of petroleum products last year reached a total of 10,691,633 tons, with exports and re-exports amounting to 803,900 tons, leaving 9,887,733 tons for consumption. Of the import total, 1,112,639 tons were from the United States, but 3,538,248 tons were from Venezuela and Dutch East Indies, 2,135,045 tons from Iran and 1,127,493 tons from Mexico. Other large imports included 625,762 tons from Rumania, 449,505 tons from Trinidad, 585,483 tons from Iraq, 353,781 tons from Peru and Ecuador, 298,052 tons from Russia and 119,629 tons from Dutch Borneo.

The most important individual products imported were motor spirit, 4,189,579 tons; gas and fuel oils, 3,122,101 tons; crude oil, 2,065,289 tons; kerosene, 697,589 tons, and lubricating oil, 410,313 tons.

★ Hungary imports its oil

No mineral-oil resources exist within the postwar territory of Hungary and requirements are met chiefly by the importation of crude, which is refined within the country, it was reported by B. Speidl.

The refining industry in that territory which now comprises Hungary was established in 1884, first to process Rumanian and, later, American, Russian and Galician crude. At present, Rumanian oil is used almost exclusively.

There are seven inland refineries, which are consolidated in a quota and cartel agreement so that both production and distribution are controlled.

★ Small French output is government controlled

Production of oil in France is very small, the only petroleum-bearing strata exploited being that of Pechelbronn, the output of which is less than 80,000 tons annually, it was reported in a paper by Jules Meny of the Compagnie Francaise des Petroles. Other strata within the country, it was said, is negligible.

All phases of the industry are subjected to government control, first adopted following the World War and later expanded by legislation in 1925 and 1928. This control covers not only production, which is subject to concession rights, but also distribution, refining and imports, the refining control being designed to insure a supply of oil products to replace imports.

These post-war laws, Meny pointed out, have facilitated the advance of France from the status of a purchaser-marketer to that of a refiner-marketer, although the lack of a local crude supply continued to limit its status to that of a purchaser-refiner-marketer. Considerable progress towards complete integration, however, resulted from the San Remo agreement, whereby France acquired practically a one-fourth interest in the petroleum development of Iraq. It was pointed out that more than 70 percent of the 1935 production in Iraq was refined in Europe, this quantity being equal to approximately 40 percent of the French refining capacity.

★ Polish recovery is still adequate for demands

Polish crude production is entirely sufficient to meet the requirements of the home market and leave a considerable surplus for export, in spite of a continuing decline in output, it was shown by Dr. Stanislaw Schaetzel.

Present output, however, is inadequate to meet the output capacity of the Polish refining industry, making operations comparatively more expensive than would be the case if plant capacity were utilized to the full extent. Because of this, exports of crude oil are, in principle, prohibited but it is not believed it would find an extensive foreign market because for some years the price of crude has been higher in Poland than in other countries.

A number of difficulties, attend oil production in Poland, one of the most onerous being the royalties payable to landowners, which frequently run 20 percent or more, Dr. Schaetzel explained; another difficulty is the legal restriction under which wells become the property of the owner of the land free of charge after a period of 25 years.

From a legal viewpoint, the conference was informed, the conditions in the Polish oil industry are not sufficiently controlled. The sale of oil products on the home market and for export is allocated on a quota basis, determined by a compulsory control organization, as a reuslt of which excessive competition has been restricted and the price of crude oil maintained at a comparatively high level, though fully justified by local conditions.

★ Austria's oil production two percent of demand

Local crude production in Austria accounts for only two percent of the local demand, it was reported by the mining bureau of the Austrian ministry of trade and commerce. A recent law provides for prospecting permits and the granting of leases in the event oil is discovered during exploration. Although there are three refineries in Austria capable of treating 600,000 tons yearly, they operate only at about one-third of their capacity. Finished products may be imported only under governmental permit.

★ Argentine oil advanced rapidly in recent years

Increasing progress of Argentine industries makes the development of energy resources of special importance to the country in view of the desire of the government to avoid importations, it was declared in a paper prepared by Enrique P. Canepa and Mario A. Lavarello, government engineers.

Among the energy sources of the country, it was said, oil alone has a preponderant place, since the cost of transporting wood, found only in regions remote from the points of consumption, is prohibitive. The use of hydroelectric energy is small because the important sources are far from the centers of population, and the use of natural gas is limited to the fields in which it is produced, although it is possible, presuming a rational exploitation—that it may, in the future, replace a part of the coal and fuel oil now imported. There is no evidence that coal exists in Argentina in exploitation form.

The oil industry has developed enormously during the past few years, the conference was told, and, with its by-products, has satisfied a great part of the demand for fuels. A real demonstration of this evolution is that it actually covers the demand for light products.

The oil refining industry in Argentina began its real development in 1926. At present there are 18 refineries in the country of 10,000 cubic meters daily, which is greater than the present productive capacity of the industry in crude oil. Gasoline production, in relation to the petroleum treated, increased from 14.4 percent in 1925 to 37.6 percent in 1934.

A statistical review of the industry, prepared by Adolfo Niebuhr, civil engineer, shows that no figure is available as to the probable total petroleum reserves of Argentina, but that proved reserves in 1935 were 14,000 hectares and that producing fields comprised 12,000 hectares, with 2547 wells which in 1935 produced 2,272,000 kiloliters. Total production from the beginning of the industry to the end of last year was 21,803,000 kiloliters.

The review showed also that 90 natural gas wells were producing at the end of last year, with production for 1935 of 613,000,000 cubic meters and from the beginning of exploitation 4,948,000,000 cubic meters.

Casual discovery of oil in Argentina in 1907 was the start of the industry in that country, which in 1935 had a total production of 2,272,705 cubic meters of petroleum and 31,184 cubic meters of gasoline, according to Guillermo Hileman of the mineral service and Pascual Sgrosso of the Bureau of Mines.

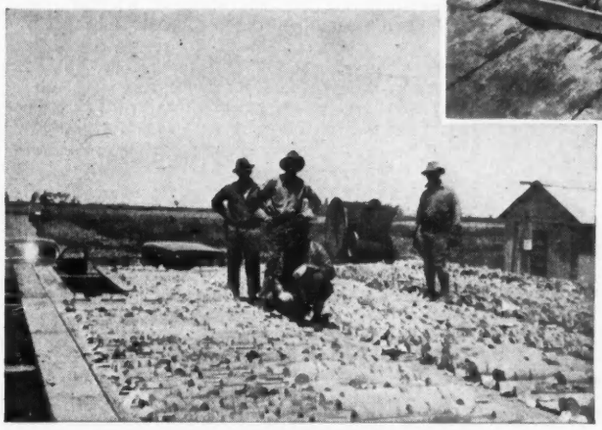
At the present time, it was said, production is increasing in the south and decreasing in the west or north, but natural gasoline is diminishing in the south and increasing in the other areas.

Geology and geophysics which make use of the most modern methods, the two engineers said, are responsible for the discovery of the greater part of the fields now in exploitation.

Conservation of petroleum and natural gas has become a major problem in Argentina and last year led to passage of a

Illustration above shows an array of Dean cores ready for inspection. They were practically all taken by a Dean Core Drill from the Pure Oil Co.'s No. 1 Chowchilla Well (8402 ft.) at Merced, California.

Below: Geologist Arthur E. Remington and assistants examining cores taken from the Chowchilla Well by a Dean Core Drill.



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petroleum law, it was reported in a paper prepared by Enrique P. Canepa and Francisco Herpig, government engineers.

Three of the four operating fields have been discovered by the government itself, it was pointed out, which has influenced the policy of Argentina toward a nationalistic treatment of oil exploitation.

The 1935 act was the first petroleum law to be passed, succeeding the mining code of 1886, adopted at a time when the existence of oil in the country was not thought of and consequently not taken into consideration.

"Although the necessity of reforming the existing mining code was recognized," the engineers said, "there was a delay of some years before the new law was sanctioned, due to disparity of opinions, especially regarding the nationalization of oil wells, an idea that did not meet with approval in the end. By the new law, the oil and fluid hydrocarbon fields remain the private property of the nation or of the respective provinces in which they are situated.

"Following the nationalistic tendency, the executive power has decreed, in view of one of the clauses of the law, that reserves be created for a period of 10 years in all national territories. Some provinces have agreed to this but others have not. The result of this new law is calculated to be of great importance in the country's economic future, since the reserves are considered as being the decisive factor for insuring the conservation of the oil fields."

The subject of conservation was further explored September 12 in the discussion of national power and resources policies, it being pointed out by Thomas Ezcurra that 43 percent of Argentina now has been made oil reservation lands and that the predominant policy of the government now will be to prevent new activities of private companies and allow only the activities of the autonomous public agency.

★ China's reserves are set at 3½ billion barrels

A "probable" reserve of oil, from both wells and shale, of 3,604,800,000 barrels is estimated to exist in China, according to a review prepared by the Chinese National Geological Survey.

Oil has been known to exist in China for almost 2000 years, it was pointed out, but no extensive fields have ever been developed, and nearly two-thirds of the total reserve is in the form of shale.

Outlining the sporadic development work which has been done from time to time, the survey's paper explained that "with the imperfect knowledge that we now have, it is clear that any estimate of the magnitude of the total reserve is but a rough guess and without sufficient basis in fact.

"It is, however, useful to summarize the available data for record. The United States Geological Survey once gave an estimate of the oil resources of China to be 1,375,000,000 barrels without any detailed explanation. This figure was most probably based on the extensive reconnaissance in northern China made by Clapp, Fuller, and other American geologists, from 1914 to 1915, and that of Louderback in Szechuan. At that time attention was paid only to petroleum exploitable by wells. No oil shale was considered to be workable."

More recent studies, however, the report continued, indicate that comparatively large reserves of shale are to be found in various parts of the country with a recoverable oil content ranging from 5.5 to 7.74 percent, from which it is estimated a total of 2,229,800,000 barrels of oil might be recovered, but 1,899,000,000 barrels of this is assigned to the shale deposit in Manchuria.

★ Canadian production far short of consumption

Canadian oil production last year exceeded 1,500,000 barrels, it is indicated by official figures compiled by the Canadian government which show that production in 1934 was 1,417,368 barrels compared with 1,145,333 barrels in 1933, according to a paper prepared by P. V. Rosewarne of the Canadian Bureau of Mines.

At the close of the year, it was shown, there were 2213 wells, but the number was increased further during 1935.

Canadian crude ranges in appearance from a very light, clear naphtha, obtained from some wells in Turner Valley, to the very heavy black viscous crudes obtained from the Wainwright area and from the bituminous sands of northern Alberta, Rosewarne reported. The amount of gasoline obtained by straight-run distillation varies from about 75 percent for the lightest crudes, exclusive of the naphthas, to less than two percent for the heaviest crudes, but these percentages could be materially increased by the use of cracking equipment.

"It is obvious," he said, "that there is no overproduction of crude oil in Canada since the domestic production falls so far short of Canadian consumption. There has been some unnecessary drilling due to the practice of putting down offset wells which would be very difficult to control except by the creation of a monopoly or by rigid governmental control.

"It is very difficult to estimate the effect of improved methods and equipment on production," Rosewarne added, "but it is certain that better methods of drilling and improved equipment have made it possible to reach horizons that in the early days could not have been touched. It has been found repeatedly in the older fields of Ontario that wells have been brought into production in areas that had been formerly considered exhausted. In addition, production has been maintained and assisted by governmental insistence that no well should be abandoned till the producing horizon was safeguarded against water encroachment by being properly plugged, and that old wells abandoned in the past should also be plugged if there was evidence of the infiltration of water. This is much more easily done in the new fields than in the older ones."

Canada produces only a fraction of her petroleum needs, it was indicated by statistics showing the importation in 1934 of 1,072,000,000 imperial gallons of crude oil, 1,782,000 gallons of topped crude oil, 61,600,000 gallons of gasoline, 56,000,000 gallons of fuel oil and 10,500,000 gallons of lubricating oil. The records show that of these imports, the United States supplied 796,000,000 gallons of crude, all the topped crude and lubricating oil, 51,300,000 gallons of gasoline and 49,000,000 gallons of fuel oil.

★ American gas industry is different from European

Differences between conditions and practices in the United States and those of European countries in the organization of the production, transportation and distribution of natural gas were brought out during a session devoted to the gas industry on September 8.

The major cause of this difference, it was disclosed, is the greater abundance and more varied character of the natural fuels of America. Not only is the enormous production of natural gas here without parallel in Europe, but the availability at comparatively low cost of petroleum, both as a material for manufacturing gas and as a competitor, has a profound effect on the gas industry, it was pointed out by E. R. Weaver of the National Bureau of Standards, general reporter for the session.

In substantially every European country, public ownership of the facilities for gas supply is either predominant or so widespread that in every organization representative of the industry as a whole, and in the discussion and decision of every question of general significance, the public interest is reasonably sure to be directly represented by at least as powerful a group as represents any private interest.

Western Europe, the papers showed, has very little natural gas. A publicly owned supply of about 530,000,000 cubic feet annually is used for the generation of electricity in the municipal plant of Vienna. The Hungarian government was a pioneer in the scientific exploration and development of natural-gas resources in Transylvania, now a part of Roumania; but only two small sources of supply now exist in the country and are distributed in neighboring towns.

In the United States, on the contrary, natural gas is the principal gaseous fuel, and the construction of numerous great pipe lines to deliver it to urban centers from distant fields is the outstanding accomplishment of the American gas industry.

While pipe-line companies have protected their supply from depletion by the acquiring of large acreage, second in potential importance among the gas resources of America is the nearly 200,000,000,000 cubic feet of gas produced in the operation of the petroleum refineries, which can readily be converted into a form satisfactory for both domestic and industrial purposes.

WILDCAT ON FIRE

Standard will drill offset to flood Venezuelan test

Standard Oil Company of Venezuela is preparing to drill an offset well and flood the gas producing horizon of Maturin 1 to kill the flow of gas which ignited August 13 on the Eastern Venezuela wildcat. Maturin 1, located in the State of Monagas, was spudded July 22 and drilled to about 900 feet, where 18-inch casing was cemented. A strong flow of gas, causing the well to blow out, crater, and bury the derrick in four minutes, was encountered a short distance below the bottom of the casing.

Pulsating Problems in Measuring Natural Gas

MAY BE OVERCOME BY APPLICATION OF SEVERAL CORRECTIVE FACTORS

By FRANK B. TAYLOR, Staff Writer

WORK directed toward the refinement of natural gas measurement by the orifice method has included a study of flow pulsation and related measurement error. Although results are not conclusive in offering a complete solution to the problem of eliminating pulsation error, investigation has developed means of increasing measurement accuracy of flows where pulsations are present. The problem has been considered extensively by various agencies and by independent interests and has reached a point where applicable corrective factors may result from present observation.

Results of importance are divided naturally into three phases. First, methods of eliminating the tendency for pulsations to originate; second, modifying active pulsation upstream from a measuring station; and third, to correct for error produced after a chart record has been obtained. All these are related lines of study.

The most common source of pulsation generation is an accumulation of line fluid of water and condensates. The dragging of this fluid from a low in the line, produces an irregular intermittant flow by partially closing the inside diameter of the pipe. Proper placement of drips of a capacity sufficient to contain fluid developed through all operating conditions, and regular drainage, is the best method of overcoming this condition.

Although drips are of definite value, it is frequent that their use will not eliminate entirely a pulsating condition due to fluid surge. In cold weather more than the average quantity of condensate is formed, and in certain areas with natural gas of particular analysis, hydrates are formed that adhere to the sides of the line, returning to the liquid stage with an increase in temperature. Under such conditions it is necessary frequently to open lines and blow them clean.

In low-pressure gas lines from field production to natural gasoline plants, it is to the advantage to pass as much fluid to the plant as is consistent with line operation. The heavier ends that are lost through the blowing of drips decrease the output of the plant. It is calculated that of this group of hydrocarbons, an additional 20 percent of their volume will be retained from residue gas if the developed fluid could be passed through the plant.

Certain mechanical factors in the flow of gas through sand and lime into a well's producing string may produce an intermittant flow into the gathering line. The most frequent cause of this condition is an accumulation of fluid within the producing horizon in the immediate vicinity of the producing depth. Usually, although not always, blowing of the well, will change the subsurface condition so that pulsation is not noticeable. However, besides being a waste of gas and in some producing horizons injuring the productive properties of the pay, the operation is seldom more than temporary.

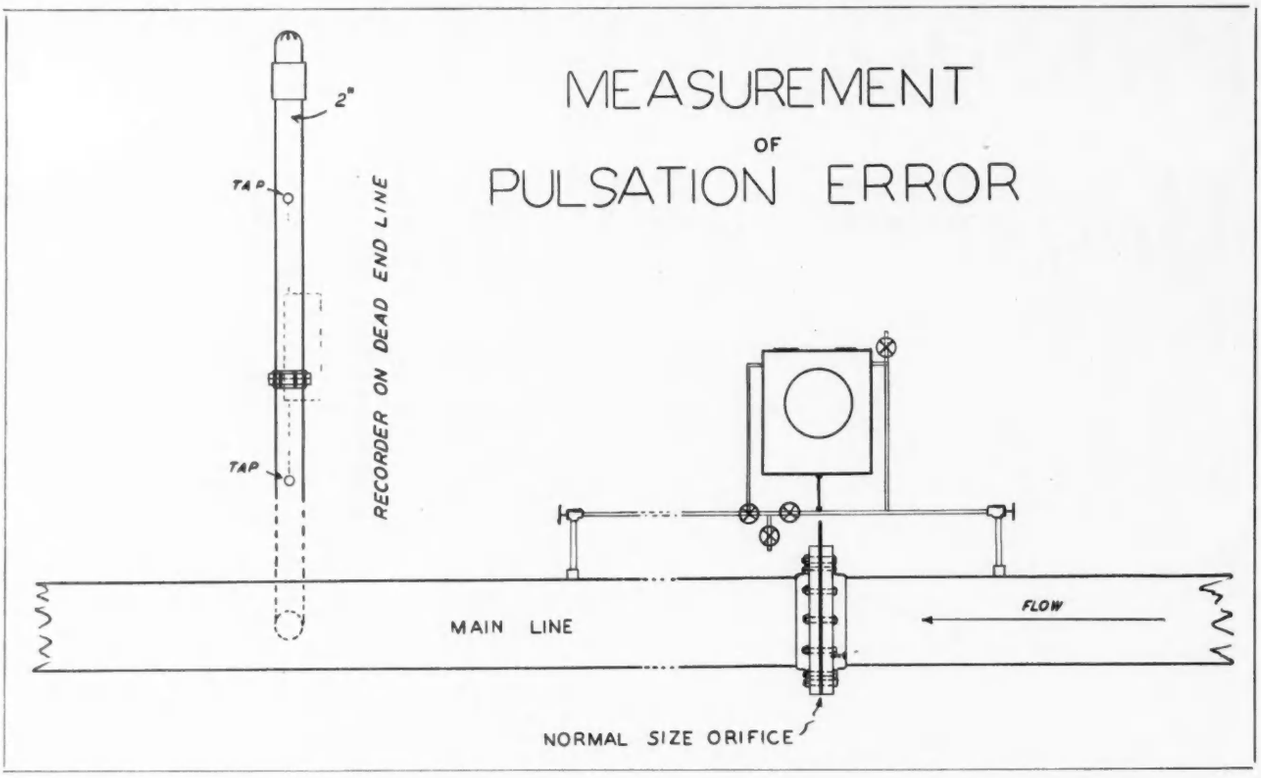
The use of abrupt turns and numerous fittings may produce a swirling motion to a gas stream that results in pulsations from eddies at line bends or angles. A gradual tend to a new direction is always advisable where possible, for in addition to decreasing the possibility of generating pulsations, less line resistance is set up. In the immediate vicinity of measurement devices it is necessary that abrupt turns be eliminated so far as possible in order to assure accurate measurement even though the gas well will change the subsurface condition so that stream has no tendency to pulsate.

Pressure regulators, partially closed valves and other line equipment may produce a pulsative condition, particularly if improperly installed or inefficient in operation. Compressors produce a pulsation that is one of the most difficult to overcome. The reaction of the piston generates a type of pulsation that can travel for miles down a gas stream before becoming ineffective.

Modification of Pulsation

Various devices are in use that are so constructed as to smooth out a pulsation so that its effect upon measurement instruments is minimized. Among these is the straightening vane. A swirling motion of a gas stream is broken by a set of vanes placed in the line, the exhausted gas being reformed into one constant flow. This instrument is of particular advantage where a recording instrument is adjacent to an upstream bend that can produce a swirling motion in the flow. In short meter runs the incorporation of straightening vanes is of particular advantage.

Vanes alone are frequently insufficient to reduce pulsation to a smooth flow. Experiment has developed the fact that a combination of resistance and capacity generally is the most effective means



of combatting gas pulsation. Development has not set a definite relationship between the amount of resistance and capacity necessary to obtain accurate measurement, and final values must be related to flow factors based upon both velocity and volume.

In some installations where a relatively small gas volume is passed through a meter, an orifice in the line some distance upstream from the measurement instrument, and having an opening smaller than that in the measuring disc, will smooth out a bad pulsation. The same principle is used where the gas discharge is irregular, requiring maximum range of the recording instrument. This is particularly effective where the demand is located near the downstream side of the meter, as is often the case in drilling-rig supply lines.

Various manifolds, with staggered cross sections, and with a total volumetric capacity equal to or greater than the transmission line, have been used to advantage. Other installations for reducing pulsations combine the choke and the manifold. A single joint of line pipe of considerably larger diameter than the main line may be all that is necessary.

In cases where pulsations are of great magnitude and do not appreciably decrease with the methods described, it may be necessary to change lines and angles, eliminating short turns. Such is expensive but has proven satisfactory where other means have failed.

Corrective Measures

In general, pulsations tend to give a reading above the actual amount of gas being passed. In few instances has the reverse been found true. Due to the inertia of the moving parts in gas measurement instruments, bad pulsations are not always recorded upon a chart. By the time the instrument is ready to record a reading actuated by a pulsation a different phase of the pulsation may have been reached to produce a distinctly different reading. As a consequence, the general recording is a comparatively true average of the volume being passed but cannot be considered truly accurate.

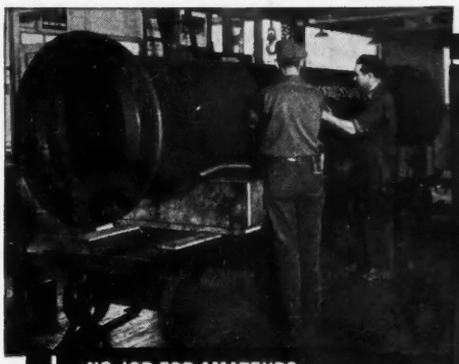
The accompanying diagram illustrates a phantom circuit that has been tried, in most cases successfully; in efforts to obtain a measurement of the error due to pulsation. A number of these setups are in service in the Pacific Coast region.

The general setup consists of a two-inch meter run and manifold set at right angles and adjacent to the downstream end of a master line meter being influenced by pulsation. The pulsation, or dead end, meter is mounted in the conventional manner with customary manifold design. The end of the meter run is closed by a bull plug.

A one-inch orifice may be installed in the dead end flanges, or smaller if the pulsations are light. Setting the differential pen arm at zero, with pipe taps closed, when turned on, the meter will give a positive reading on the differential chamber equivalent to an approximate increase or false reading occurring on the master meter subject to a pulsating flow. Consequently, if the master meter shows 20 inches differential, and a 5-inch differential is shown on the dead end meter, the 5 inches would be deducted from the master meter reading of 20 inches, the net reading of 15 inches being used for calculating the actual flow of pulsating gas through the main line.

This method has worked very well on both pressure and vacuum lines, and where flows are more or less constant, a temporary setup can be made, and a definite error factor established. Provided that flow conditions remain constant, only periodic checks are necessary on the dead end meter.

Where flow conditions are frequently changed as in average operation, such means of measuring pulsation error may be subjected to all flow conditions and a graph drawn to allow for errors occasioned by varying conditions.



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THEORY OF OPERATION AND TREND IN PRACTICE OF POWERING

Direct-Current Rigs

By W. C. LANE

[PART 3]

THE layout of existing direct-current rotary drilling rigs will be discussed in this article, the third and concluding part of a series. In Part 1, which appeared in THE OIL WEEKLY August 24, 1936, the principals involved and the application of them to the control of the rig was discussed. The selection of equipment was considered in Part 2, which was published in THE OIL WEEKLY September 7, 1936.

Layout of Existing Plants

Figures 4 to 16 inclusive are intended to show the ways in which the generators, engines and motors on the different rigs designed are associated while the major operations, drilling and hoisting are in progress. Each generator is controlled in accordance with the explanation given in connection with Figure 1. The mechanical arrangement is shown on the left and the electrical circuits, stripped of their details are shown on the right. A scrutiny of the different schemes will show that several of them differ but little and an inspection of the actual rigs will lead one to think that the main differences are in the engines, the mountings and in the devices used to transmit the power of the engines to the generators.

As far as the writer has been able to learn the first rig to be put in operation is the one listed in the table as Rig No. 16. The arrangement of the power plant is shown in Figure 4 and in this it may be seen that identical units are used, each of which consists of a main generator and an exciter coupled together and belted to an engine. The generators are compounded by connecting them in series but no provisions are made by which one engine can be made

LEGEND TO ALL FOLLOWING RIG DRAWINGS

1, 2, 3 and 4—Main Generators.
D—Draw works motor while rotating bit.
P—Pump motor.
H—Draw works motor while hoisting.
E—Exciting generator.
M—Alternating-current motor.

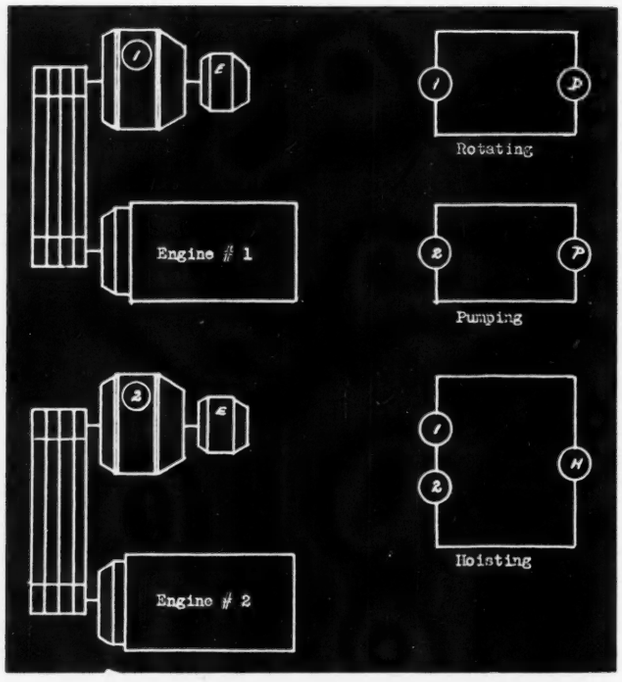

FIGURE 4

Arrangement of the power plant and method of operating the motors on the first variable voltage rig to be put in service. This plant has been in operation six years.

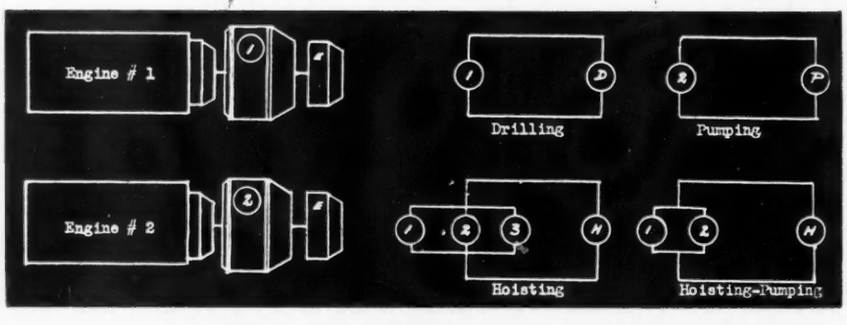

FIGURE 5

Pioneer rig of the second manufacturer to enter the field.

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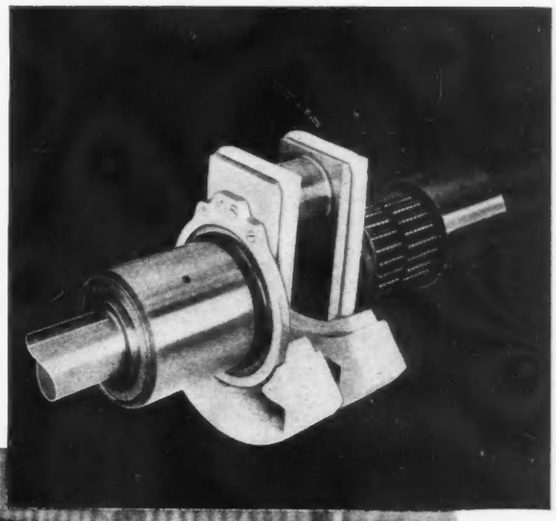

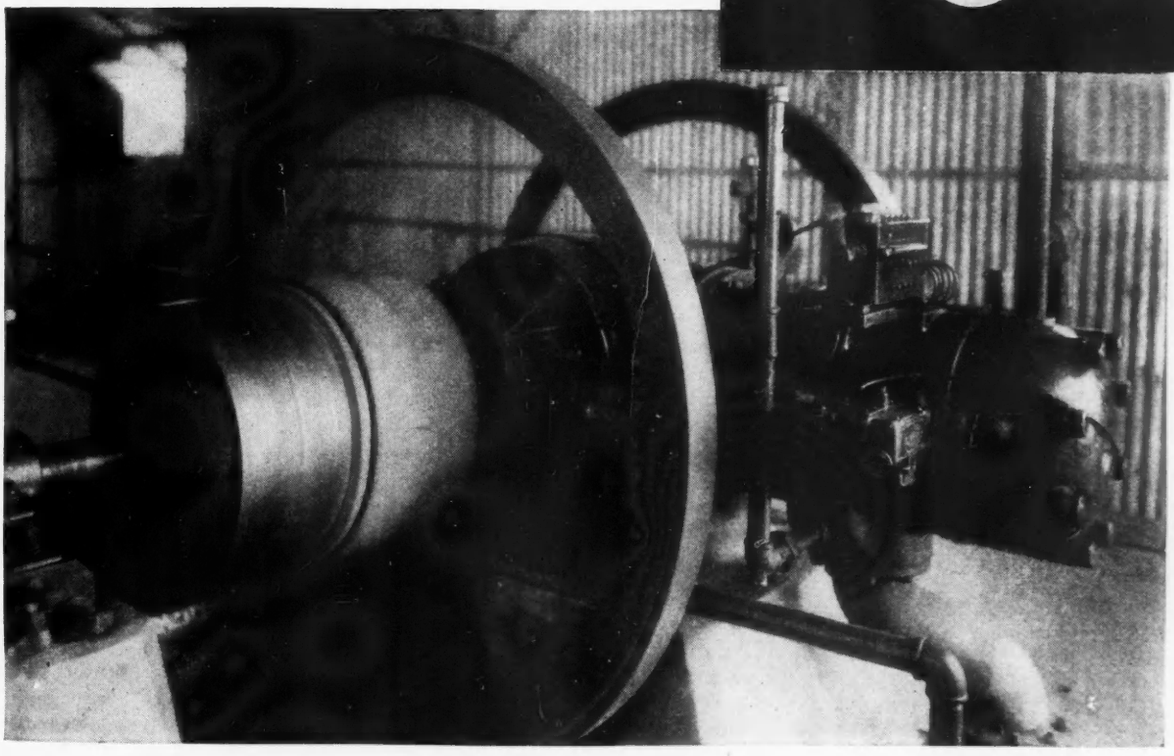

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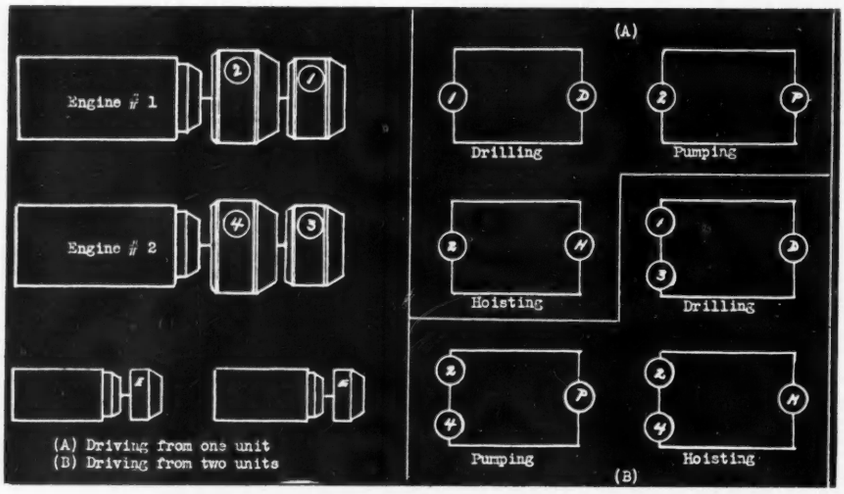

FIGURE 6

The arrangement used on the first power plant put in service by the third manufacturer of direct-current powered rigs.

to assist in carrying the load of the other while drilling work is in progress. Originally, the draw works was equipped with a compound motor and it was necessary to reverse the series field when the direction of rotation was changed. This feature has been abandoned on all later rigs and it has simplified the control apparatus very materially. That this, the pioneer rig is still in service is a rather unusual record for a new application in the oil country.

The pioneer rig of a second manufacturer was put in service a short time after the one described above. The plant includes two units each of which consists of an engine, a generator and an exciter mounted integral and set on a trailer. The grouping of the generators is shown in Figure 5 and from this it may be seen that they are connected in parallel for hoisting service. Units of this type are in use in the power plants of two other rigs put out by the same manufacturer in which the apparatus is mounted on a barge. From the standpoint of compactness units mounted integral are ideal as they occupy a minimum amount of space on a trailer or on a barge and they are handled as one piece. One of the barge installations includes three units and the switching arrangement is such that two generators may be operated in parallel for driving the pump and all three for hoisting work. The apparatus used in assembling the three plants is tabulated as Rigs No. 12 No. 13 and No. 14 respectively.

The maiden effort of a third manufacturer is more elaborate than those of the first two described. Referring to Figure 6 it may be seen that the plant includes two main and two auxiliary units. Each of the former consists of an engine and two main generators of an unequal capacity mounted on a common base. The capacities of the generators bear about the same ratio to one another as do the drill stem and pump loads while normal drilling work is in progress. Light work may be carried on with one unit but when heavy work is to be done the smaller generators on each are connected in series and used to supply power to the draw works motor and the larger are connected in a like manner and used to drive the pump motor. Hoisting work is done with the hoisting motor energized from the two larger generators connected in series. Each of the exciters is driven from a separate engine so that energy for lighting and for operating auxiliary equipment may be obtained with-

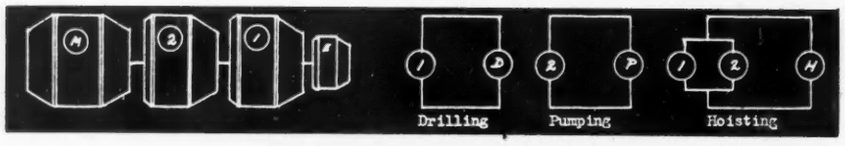

FIGURE 7

Plant driven by alternating-current motor from power line.

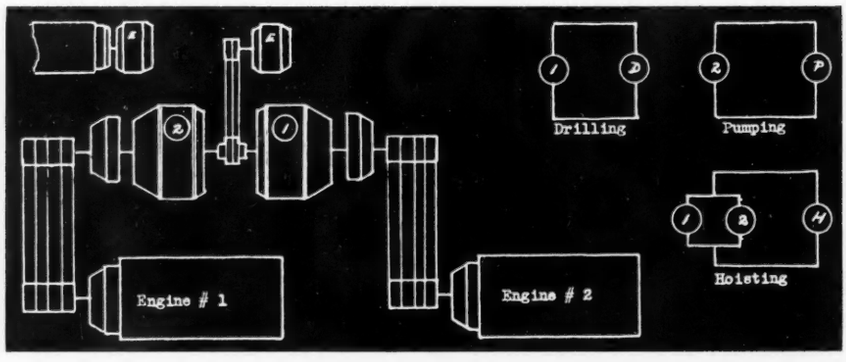

FIGURE 8

Plant in which generators are coupled together permanently and driven from engines by V-belts.

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out operating either of the main engines. Two rigs of this type are operated by one contractor. Sometimes operations are carried on at three wells simultaneously and at others at only two. According to the owners one unit has been used to supply power for drilling to a depth of 4500 feet but beyond this depth two are compounded as described above. These rigs are listed as No. 1 and No. 2 in the table.

The plant shown in Figure 7 and tabulated as No. 3 illustrates a possible method of using a direct-current powered rig in a field served by a power line. Alternating-current energy was available at an attractive rate near the site of a deep test to be drilled but the operators preferred to use direct rather than alternating-current energy for the work. Both synchronous and induction motors are adaptable to the work of driving the generators on a rig and each has some advantages not inherent in the other. A squirrel-cage motor was chosen as it was feared that the demands made on the line by the rig would create voltage disturbances in some of the villages served from the line and a motor of this type with a little extra resistance in the rotor will act as a shock absorber. The unit installed consists of an alternating-current induction motor, two main generators and an exciter all mounted integral. The larger generator has ample capacity to drive a heavy power pump and the smaller has more than is needed to drive the drill stem. The reason for using a generator with an excess capacity is that when a fishing job is on hand it may be advantageous to use the larger generator to drive the draw works motor and to drive the pump motor from the smaller. The generators are compounded for hoisting service by connecting them in parallel. Originally, the mounting of the generating unit was made so that the motor may be removed and a stub shaft with two pulleys installed for driving the plant with engines The plant was converted recently to a diesel drive and at the time this is written it is being driven as shown in Figure 14. The engines used are rated at 275 horsepower at 514 revolutions per minute.

Figure 8 shows the plan used to drive Rigs Nos. 4, 5 and 6 in which two generators of an unequal capacity are used and operated in the same manner as the plant described above. The arrangement differs from that shown in Figure 14 in that the power of the engines is applied to the two ends of the common generator shaft and normally the exciter is belt driven from a sheave located on the shaft between the generators. In some cases a spare engine driven exciter is provided that has many other uses about a rig. Energy from it is used to crank the main engines at which times the generators are connected in series and operated as starting motors. The clutches located between the driven sheaves and the generators enable one to drive the two from either or both engines.

The arrangement used on Rigs Nos. 7 and 8 of Figure 9 was developed as a result of a demand for a method by which three engines of a smaller capacity than those used on the preceding rigs described could be used. Much of the time two such engines as those applied to these rigs have ample power for driving the rig and the third may be used as a reserve or any one of the three may be kept out of service for reconditioning. When the drilling load becomes too heavy to be handled to advantage with two engines the third may be put in service and the three are used when heavy strings of

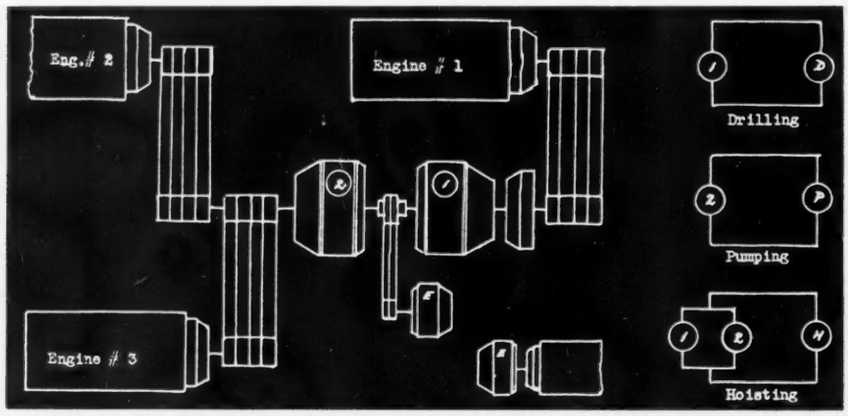


FIGURE 9

Plant the same as Figure 8 but driven by three engines.

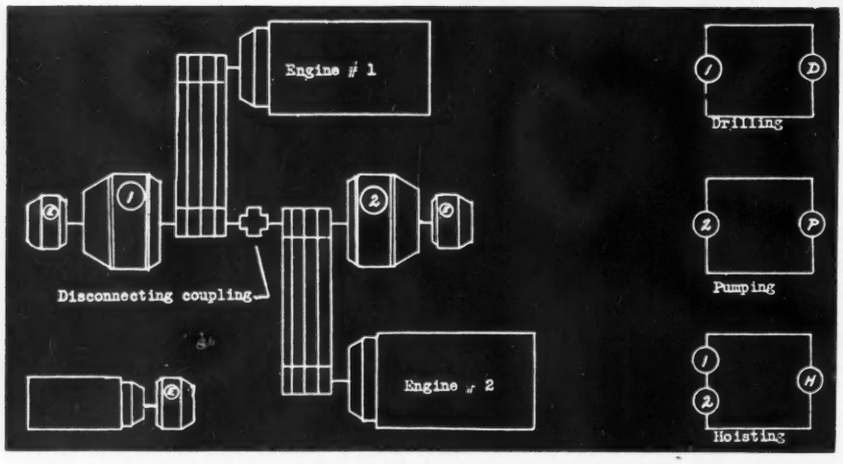
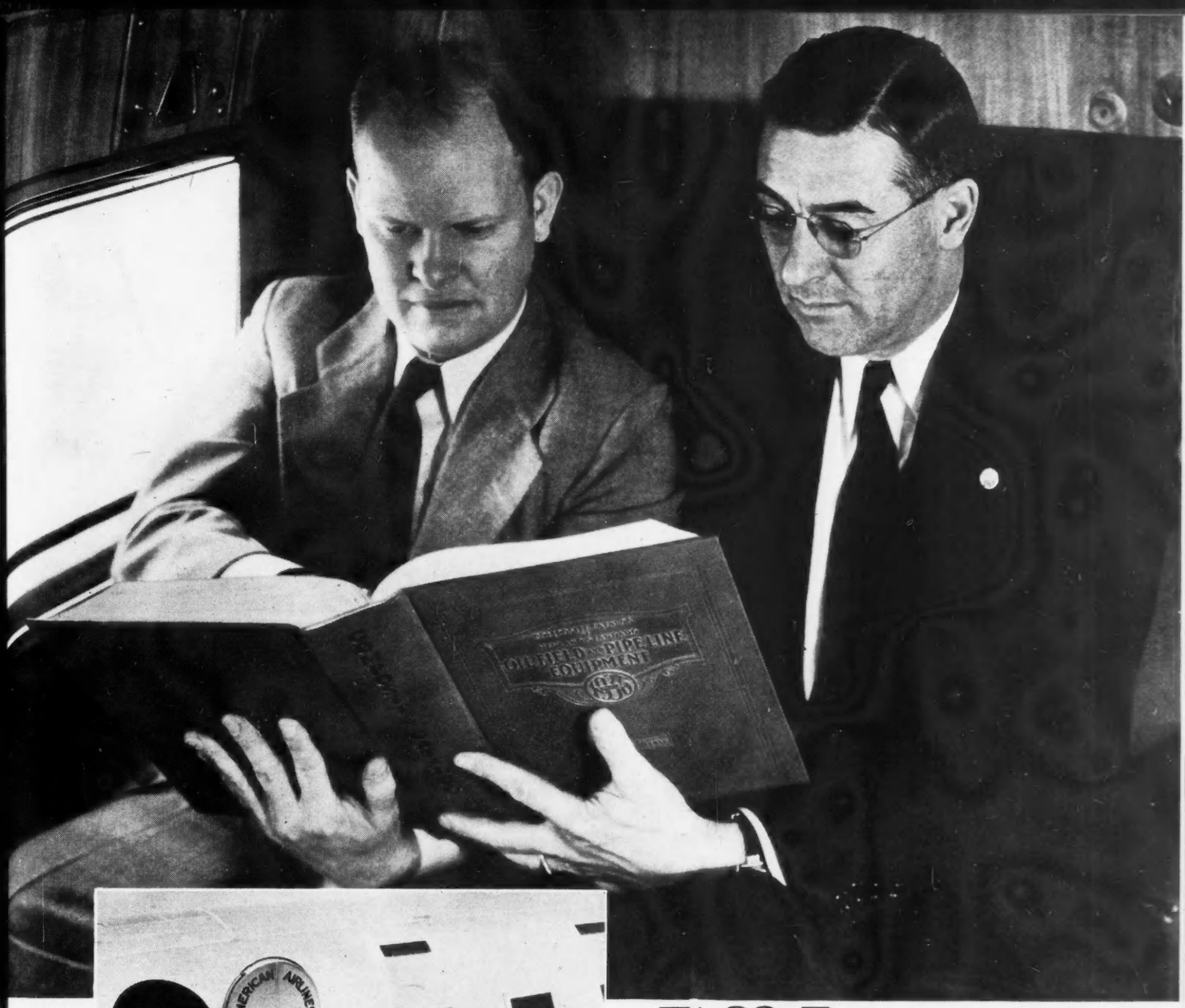


FIGURE 10

Drive very similar to one used in Figure 8 with the exception that a disconnecting coupling is placed between the generators so that they may be operated separately.



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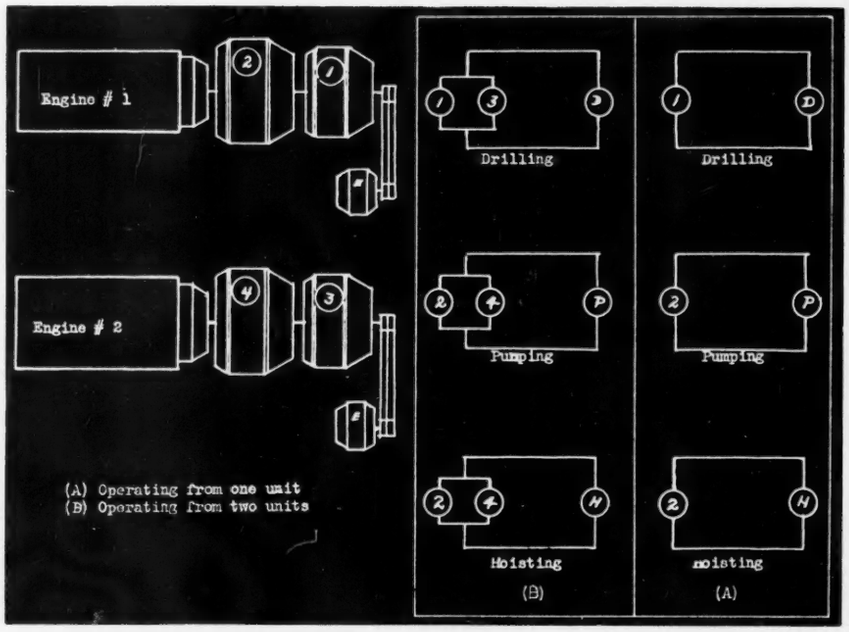

FIGURE 12

The unitary type of mounting is emphasized in this plant.

pipe are to be handled. The electrical equipment is the same as that used on the two preceding types of installations.

The plants used on Rigs Nos. 17, 18, 19, 20, 21, 22, 23, 25, 26 and 28 are arranged in the manner shown in Figure 10. Provisions are made for combining the loads and driving the resultant from one or both engines or for driving each generator separately. The last operation is made possible by the installation of a disconnecting coupling between the driven sheaves. Two direct-connected exciters are used on some of the rigs and on others one exciter is driven by a separate engine. Originally, it was the practice of the manufacturers of the electrical equipment used on these rigs to apply generators of an equal capacity as the series system of connecting generators is used. It appears that this practice has been abandoned since on the heavier rigs it led to the installation of too much excess generator capacity. On five of the rigs listed above, generators of unequal capacity are used and while all of the generator capacity installed cannot be made available for hoisting, enough is available to move the blocks as fast as the men can work.

The units comprising Rig No. 24, whose layout is shown in Figure 11, consists of stock type gas engines direct-connected to what may be called stock type generators and exciters. The main generators are special in that they are equipped with the three field windings necessary for the control of a rig. A totally enclosed motor is used on the draw works but the one used to drive the pump is of the drip proof type with no provisions for artificial cooling. The pump motor is wound for 375 volts and it is driven from one, two or three of the 125-volt generators connected in series. The draw works motor is wound for 500 volts and while drilling it is operated from one or two of the generators but when hoisting work is the order the voltage of the generators is cut to 100 each and the five are connected in series. A manually operated switchboard composed of knife switches is used to distribute the energy produced by the main generators and the exciters. With the exception of the draw works motor, all the apparatus has normal operating characteristics and carries industrial guarantees.

Rig No. 15, whose plant is illustrated in Figure 12, is an innovation by reason of the type of engines used and the manner in which the apparatus comprising each of the two units is assembled. The duplicate units consist of an engine direct-connected to a large and a small generator and a belted exciter is mounted on the top of the latter. All the auxiliary apparatus necessary to start and operate an engine is mounted integral with the engine and generators and the entire assembly is covered by a steel canopy the sides being protected by removable doors. The designers of the rig believe that the units may be operated satisfactorily without any additional shelter being provided. The capacities of the generators are such that light drilling work may be carried on with only one unit in operation the depth limits being about the same as those stated in connection with the discussion of the plant shown in Figure 6. When the work becomes heavy the two units are put in service and the smaller and the larger generators respectively operated in parallel on the pump and drill stem loads. Energy from the two larger generators only is used to drive the hoisting operation. The engines are of the opposed piston type—a

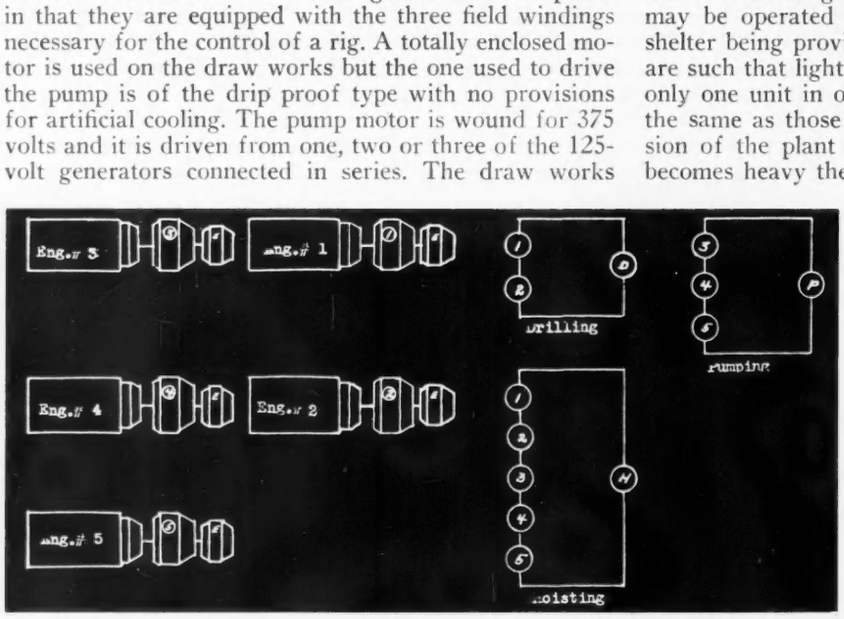

FIGURE 11

In this system use is made of a multiplicity of small stock type engines and generators.

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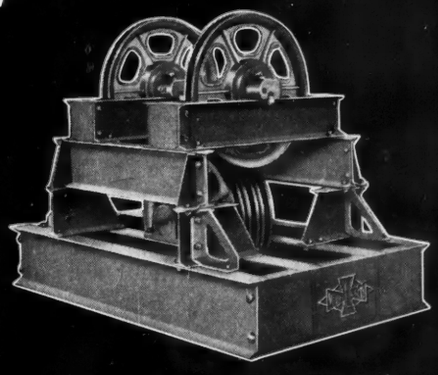
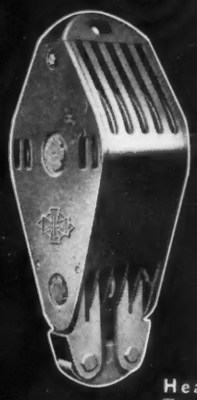


Double Deck Type Crown Block with five 36½" Manganese Casing Sheaves and Catline Sheave.



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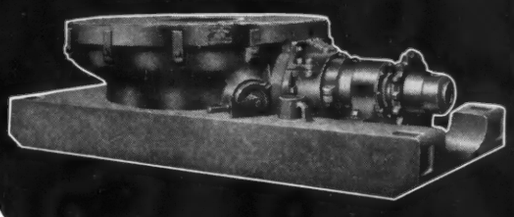

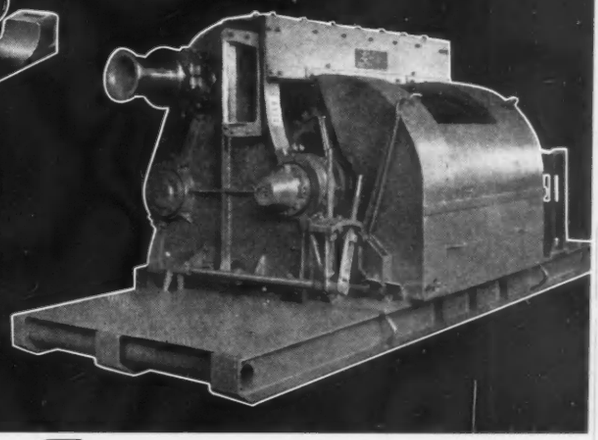

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design entirely new to the oil country. They are characterized by a low weight per horsepower and a relative high operating speed, factors which make it possible to use direct connected type generators.

Figure 13 shows a method of driving a power plant in which the engines are mounted integral with the generators and the two units are interconnected by a V-belt drive. A clutch and a disconnecting coupling make it possible to allow the drive to remain inactive when each engine is driving its companion generator or the loads may be compounded and driven from one or both engines. Obviously, the item of portability is emphasized on this rig. Though they are belt driven the exciters are mounted integral with the units. The generators on the heavier rigs of this type are of unequal capacity arranged for series operation and they are to be driven at 900 revolutions per minute.

The dual drive was developed as a result of the idea entertained by many engineers that while a certain amount of speed variation is desirable and necessary for operating the pumps it is unnecessary to provide more than that which may be obtained by connecting the pumps directly to an internal combustion engine. Furthermore some maintain that a direct mechanical drive is more efficient and less expensive to install so that from an economic standpoint only the draw works should be electrified. Figure 15 shows the arrangement in the plants used to drive Rigs Nos. 9, 10, 11 and 27 in which a single generator is provided for supplying electrical energy to the draw works motor and the pumps are driven mechanically from the engines. Under normal working conditions the engines are compounded for driving the common load but a clutch is provided so that each operation may be powered independently if it appears to be advisable. A variable speed exciter in conjunction with a voltage regulator is used to insure a constant voltage at the exciter busses when the speed of the common load is varied in order to vary the speed of the pump. While coming out and going in with the pipe the pump drive is disconnected and the power of

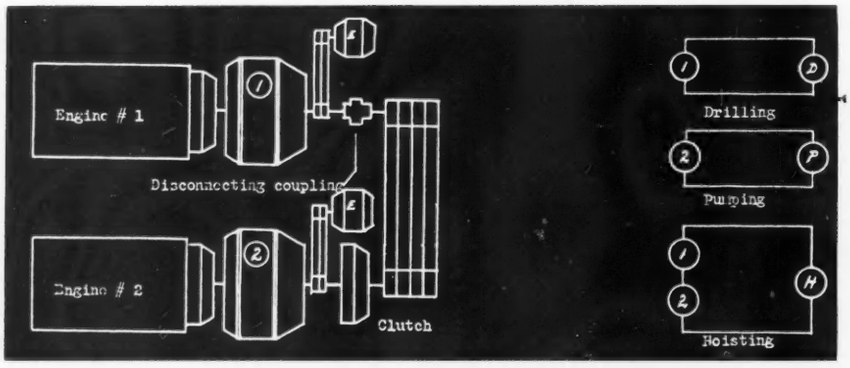

FIGURE 13

An arrangement introduced recently whereby additional standby service is provided by adding an interconnection between the two direct-connected units.

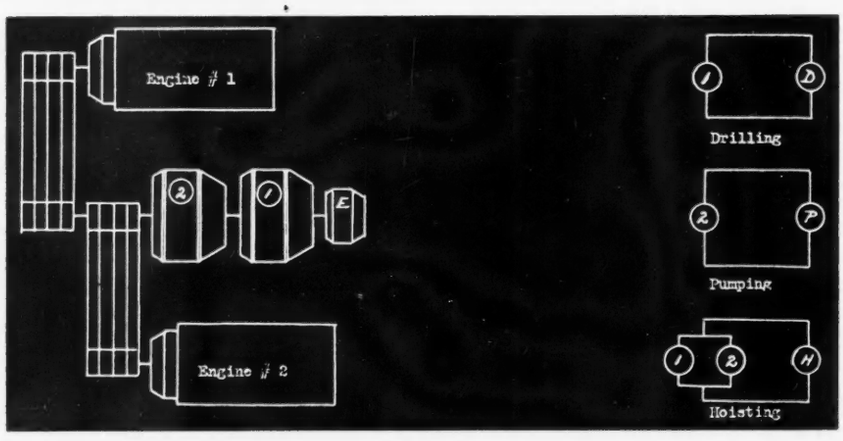

FIGURE 14

Plant shown in Figure 7 converted to Diesel engine drive.

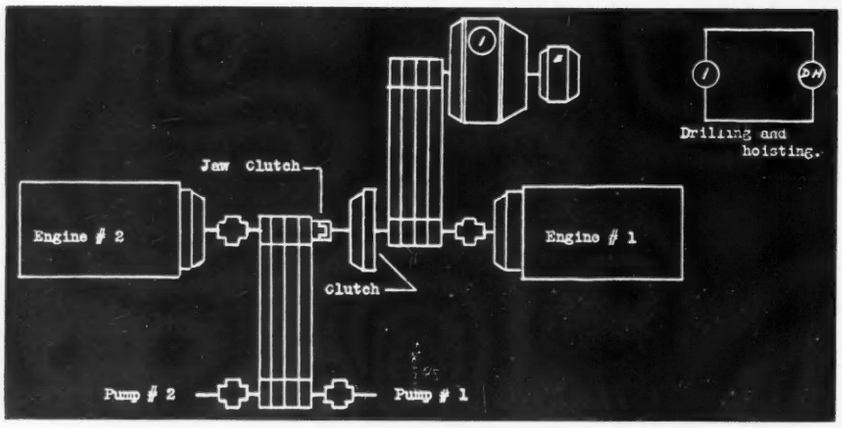

FIGURE 15

Arrangement of the plant in the first dual drive to be put in service. Pumps are driven directly from engine and draw works by an electric motor.

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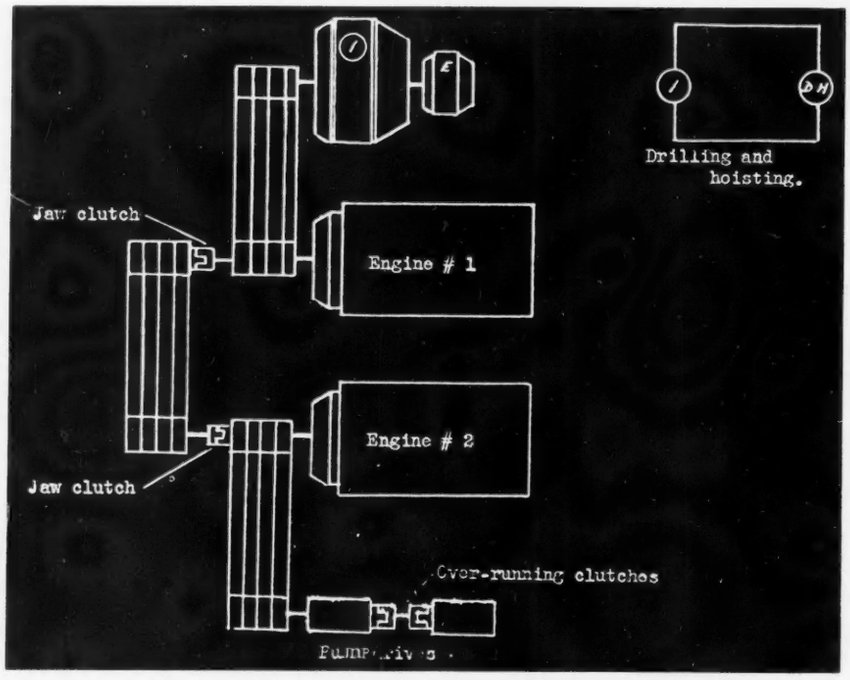

FIGURE 16
Another solution for the dual driven problem.

both engines is used to drive the generator.

The dual drive problem has been solved in another way by setting the engines side by side as shown in Figure 16, and equipping each with a stub shaft and two sheaves. The third clutch of the preceding figure is eliminated and a V-belt drive is used to perform its function. The same kind of electric equipment is used with this rig as with the ones described above. Both transmissions are designed so that a counter shaft with a direct and a reverse clutch may be substituted for the generator and the rig operated with a complete mechanical drive.

A summary of the main generators used on the rigs described is given in Table 2 and a similar one of the engines in Table 3. It may be seen from these that the smallest generator capacity on any one rig is 150 and the greatest is 450 kw. The engine horsepower provided varies from 240 to 750. There are 13 different methods in use of driving the 27 or so rigs in service. Of the 62 engines listed 15 of the group are driven by natural gas, 2 by oil with spark ignition, and the remainder are full Diesel engines of the solid injection type. With the exception of two engines all of the Diesels are 4-cycle and are operated at speeds which range from 500 to 650 revolutions per minute. The two mentioned are of the opposed piston type, two cycle which operate at 1200 revolutions per minute. Unfortunately spark and compression engines are rated by different methods, the former being rated on the brake horsepower rather than the continuous load an engine will carry. The ratings compiled are based on the printed literature distributed by the representatives of the engine manufacturers and when load factors are recommended for continuous operation they have been applied.

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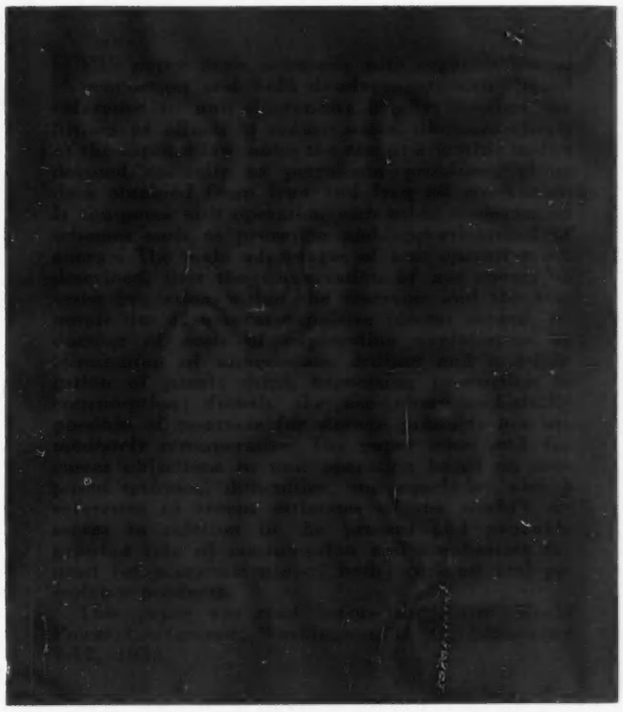
Conservation of Petroleum

By SIR JOHN CADMAN, Chairman,
Anglo-Iranian Oil Company, Great Britain



IT CAN be said, with little fear of contradiction, that petroleum is the most important of the world's wasting assets, and the fact that it is very much a wasting asset has been greatly accentuated in the last few years by some alarming comparisons between the volume of the world's estimated reserves and the present and future demands.

Vitally important though it is, it is not proposed in this paper to enter on the very debatable topic of estimates of reserves, their methods of calculation, and their reliability, but it is felt that a continued discussion on the most convenient and effective methods of conservation is relevant, and well worth while at the present time.

In this paper the subject will be dealt with from the raw-material recovery point of view.

Conservation in the various methods of recovery requires an investigation into, first, the maximum utilization of natural explusive forces in order to secure the maximum amount of production with the minimum expenditure of natural energy; second, the coordination of production to consumption; third, reduction of costs to a minimum; and finally, the use of nature's reservoirs for the storage of products for which no immediate remunerative market is available.

In a brief review of production economy since crude oil was, in 1859, first recovered for commercial purposes, three separate phases may be distinguished; namely, the periods 1859 to 1913, 1913 to 1926, and 1926 to the present time. The first period was one of scanty-production technique, lack of knowledge or appreciation of the part played by natural gas in crude production, absence of mechanical facilities for controlling high or even medium pressures. It was a period in which the guiding principle was maximum production in minimum time; speed was the essence of production policy. By allowing large volumes of gas to flow uncontrolled, the natural forces of expulsion were allowed to waste, in some cases profligately, and the life and total recoverable production from pools was curtailed. As natural energy was blown to waste, resort was had to mechanical lift with ensuing increases in cost of production.

Midway through this period, the legal basis for the production of the oil in the United States was laid down by the Supreme Court of Pennsylvania; namely, that oil, being a fugitive substance of the same category as wild game, became the property of the captor. This so-called "capture law" remains the legal basis to this day. Competitive development was thereby legalized in that country; considerations of surface ownership solely dictated the mode of operation of reservoirs, resulting in haste to drill, the evils of offsetting, waste, and enhanced costs. Markets suffered periods of overproduction, smoothed out to some extent by the existence of large storage capacities at refineries. Prices fluctuated, but remained on the whole in excess of the level of costs—perhaps unfortunately so, since a reduction of price below cost might have served to concentrate attention on the production methods employed.

By 1913 the application of more economical methods to the industry received a notable impetus by the formation of a petroleum committee of the American Institute of Mining Engineers, and, in England, the institution of a Petroleum Mining School in the University of Birmingham, followed, a year later, by the foundation of the Institution of Petroleum Technologists. The year 1913 also witnessed the first application of gas drive as a method of production. Progress was somewhat retarded during the war years, 1914 to 1919, but attention was nevertheless being increasingly drawn to the necessity in the interests of economy of production for the maintenance of minimum gas-oil ratios, and measurements to that end were increasingly practiced.

It was in this period also that water drive first commanded attention. Laboratory experiments carried out in 1920 by R. Van A. Mills, of the United States Bureau of Mines, showed that in suitable sands of uniform permeability water drive could offer an effective pro-

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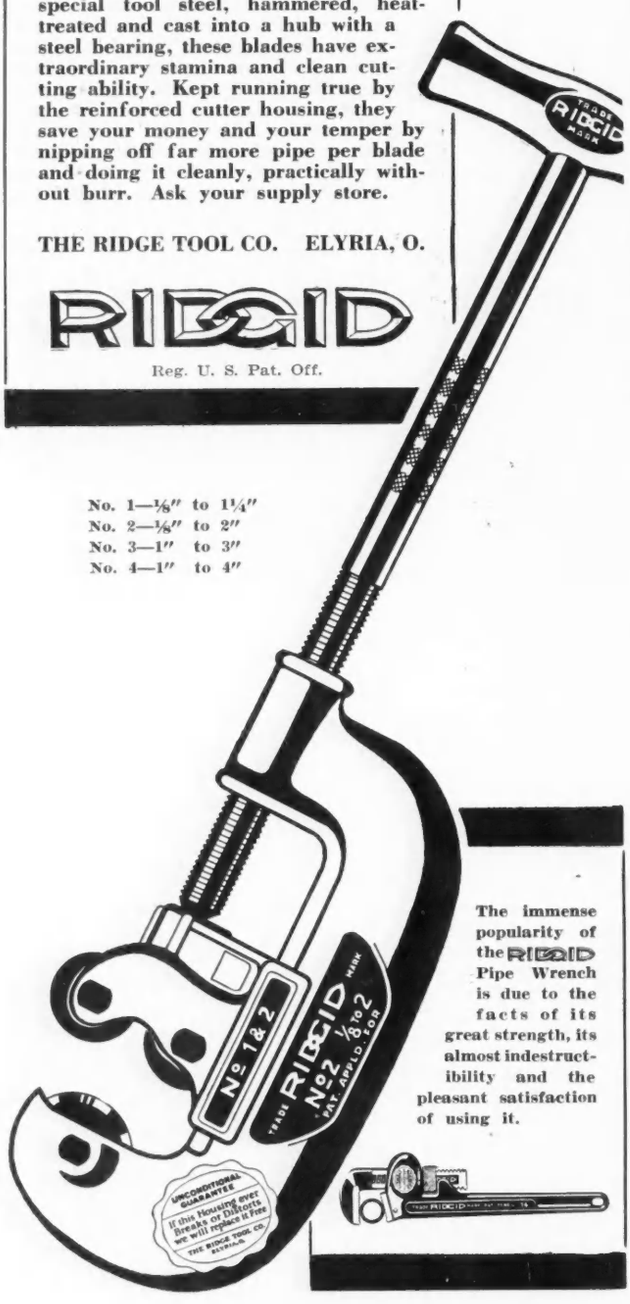
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duction method. In 1921 water flooding in the Bradford field of Pennsylvania was legalized. Research was also carried out on the effect of dissolved gases, and in 1926 Bucher and Parkhurst published the results of their investigation that the greater the gas content the less the viscosity and surface tension of the crude; factors which have an important bearing on migration within reservoirs. This result enhanced the importance of previous reasons for maintaining minimum gas-oil ratios, and indicated the advisability of maintaining gas in solution as far as possible.

The period was one, then, in which scientific principles first began to make their influence felt.

Toward the end of this period the benefits to be derived from single management of oil pools first came under discussion, culminating in 1926 in the report issued by the United States Federal Oil Conservation Board, in which they recommended the adoption of unit operation in the development of new pools. This official recommendation may be regarded as marking the culmination of 13 years of inquiry into the application of scientific principles in oil production.

We come then to the third and present period, in which, while the results achieved and the lines of research opened during the second period continue to merit and receive careful attention, the terms of ownership of oil pools have come under review. From many angles this question deserves the close attention of production operatives. It is in consequence the purpose of this paper, so far as it relates to production technique, to deal briefly with it and in particular, with unit operation.

By unit operation or control is meant the operation of any one geological unit by one management responsible to the various owners for the development and exploitation of the unit as a whole, the owners taking their share on the acreage content principle. It is practiced in many counties where concession terms permit of the taking up of large blocks of territory sufficient to cover geological units, or where geological units are in sufficiently few hands to render cooperation possible and workable. Anglo-Iranian Oil Company and Iraq Petroleum Company may be cited as examples of companies working under the first set of conditions, and the Kettleman Hills North Dome Association as an example of the second set. It is pertinent to state in this connection that in the British Petroleum Regulations of May 15, 1935, issued in relation to the Petroleum (Production) Act of 1934, provision is made for cooperation among lessees of one geological unit, to be effected in the first place by voluntary action among the owners themselves, failing which, compulsorily under a scheme to be prepared by the government with, however, the right to arbitration.

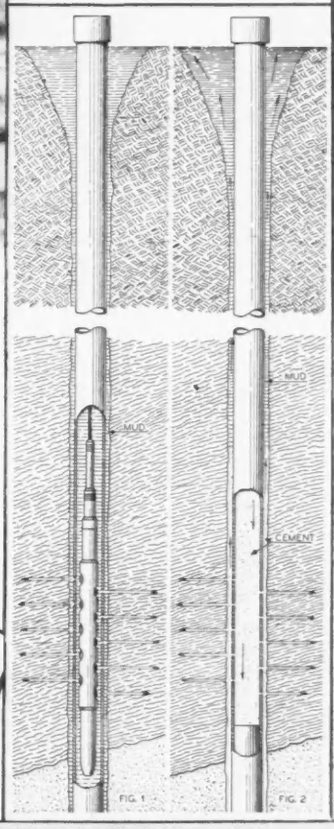
Various schemes have from time to time been advocated or practiced in order to bring production into line with other branches of the industry. Schemes for the apportionment of natural energy among owners have not found favor, lacking equity, since it is not the apportionment of energy which is the primary consideration, but the apportionment of production, which is not derived necessarily *pari passu* with the disposition of energy. Proration is the most notable alternative. It is essentially an expedient only touching the main problem, namely, the most efficient use of natural resources. It is a procedure requiring a large measure of agreement among operators, which, while possible to maintain in times of adversity, is apt to break down when that compelling force passes. Proration in its early stages took into account solely past production rates, regardless of whether the maintenance, either in whole

TO SAVE A CRATERING WELL-

Gun Perforate AND CEMENT

Figure 1—Shows well killed with rotary mud, Gun Perforator in position and ten shots completed.

Figure 2—Shows plug in position below perforations, and cement being pumped through holes to displace rotary mud and make permanent gas shut-off.



Says "Perforating Pete":

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"One of our customers had similar trouble just the other day, with a terrific volume of gas blowing up outside the casing from well bottom, which was in open hole at 5000 feet.

"They killed the well with rotary mud, then called us in and had us Gun-Perforate ten holes at 2500 feet. Next they floated a plug to a point just below the perforations, and kept the pressure on until the rotary mud began to flow in the surface crater.

"Finally, they pumped cement through the perforations until it displaced the mud and completely filled the crater. This did the trick—the cement set okay and the gas shut-off was perfect!

"Your well conditions here are similar, and there's no reason why we can't help you out of this mess. Let's go!"

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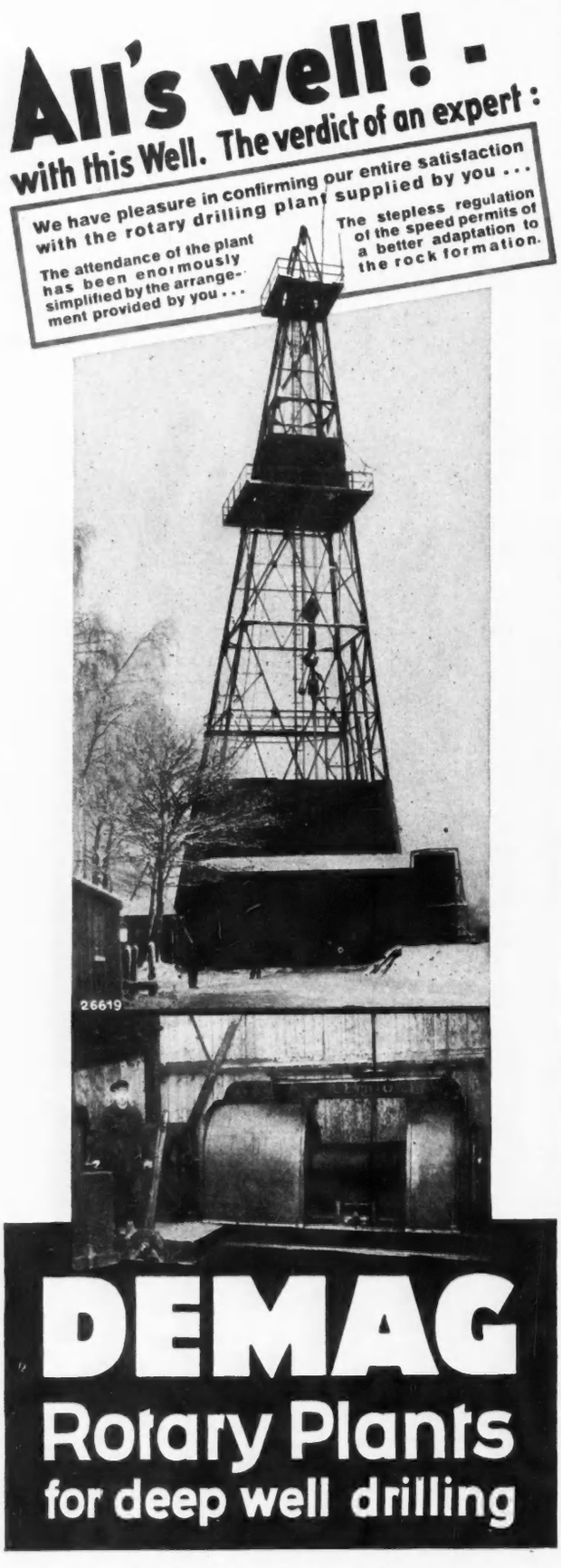
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or in part, of those production rates was in the best interests of the field. This phase is, however, rapidly passing, and the collection of scientific data which is now proceeding will, it is hoped, enable programs to be arranged in the best interests of conservation.

It will be convenient to state the main claims for unit operation and their bearing on the broader subject of conservation.

1. The main claim of unit operation on the attention of oil-field operatives is that the natural expulsive forces in any one pool constitute an attribute common to all owners of the pool; in its use or abuse all owners are affected, and it should, in consequence, be controlled and directed by one management, not only from the limited point of view of the interests of the owners, but also from the larger point of view of the industry as a whole and its most effective use of its assets.

Natural gas provides the energy for the expulsion of oil from the reservoir. When that energy is exhausted, resort must be had to artificial means of lift. The total quantity of gas available is limited and its conservation and economic utilization are major features in oil-field operation. The ability to control gas-oil ratios throughout the whole of the unit on one common plan of action affords the basis for maximum ultimate recovery. It is not to be expected that without some quid pro quo owners over the gas cap will refrain from marketing their gas on the grounds that the flowing lives of wells further down flank are jeopardized, nor will owners on the gas-oil interface refrain from production, albeit with wasteful gas-oil ratios, on the plea that detriment is caused to other owners. A further important reason for maintaining a minimum rate of gas production is that thereby viscosity and surface tension are reduced with greater freedom of migration within the reservoir and a greater proportion of total crude recovered to initial total crude content.

Of the value of a minimum expenditure of gas energy there can be no question. From viewpoint of operation it is equally desirable that a constancy throughout the field of fall in gas-oil level and rise of oil-water level should be maintained in order that the greatest measure of drainage may be secured. Such production programs can only be devised on the basis of careful, accurate, systematic, and coordinated collection of physical, chemical, and mechanical data throughout the field as a whole. The collection of such data is not possible without some form of common management.

In Iran it has been the practice for many years to control oil-water and gas-oil levels. It may be of interest to state that in Iran some years ago before, perhaps, the importance of these points had been as fully appreciated as at present, production requirements necessitated the withdrawal of crude from a certain section in large amounts relative to the remainder of the field. There resulted an incursion of emulsion into one of the largest producers. Production was immediately cut out from this section and within a brief time the oil-water level in the section resumed its correct position in relation to the field as a whole.

It has also been the practice in Iran for many years to plug those wells, which, by reason of descending gas-oil level, show gas-oil ratios increasing above the normal for the productive regions of the field. The success attained by this policy is shown by the fact that in the 3 years, 1933 to 1935, against a total production of slightly more than 170 millions of

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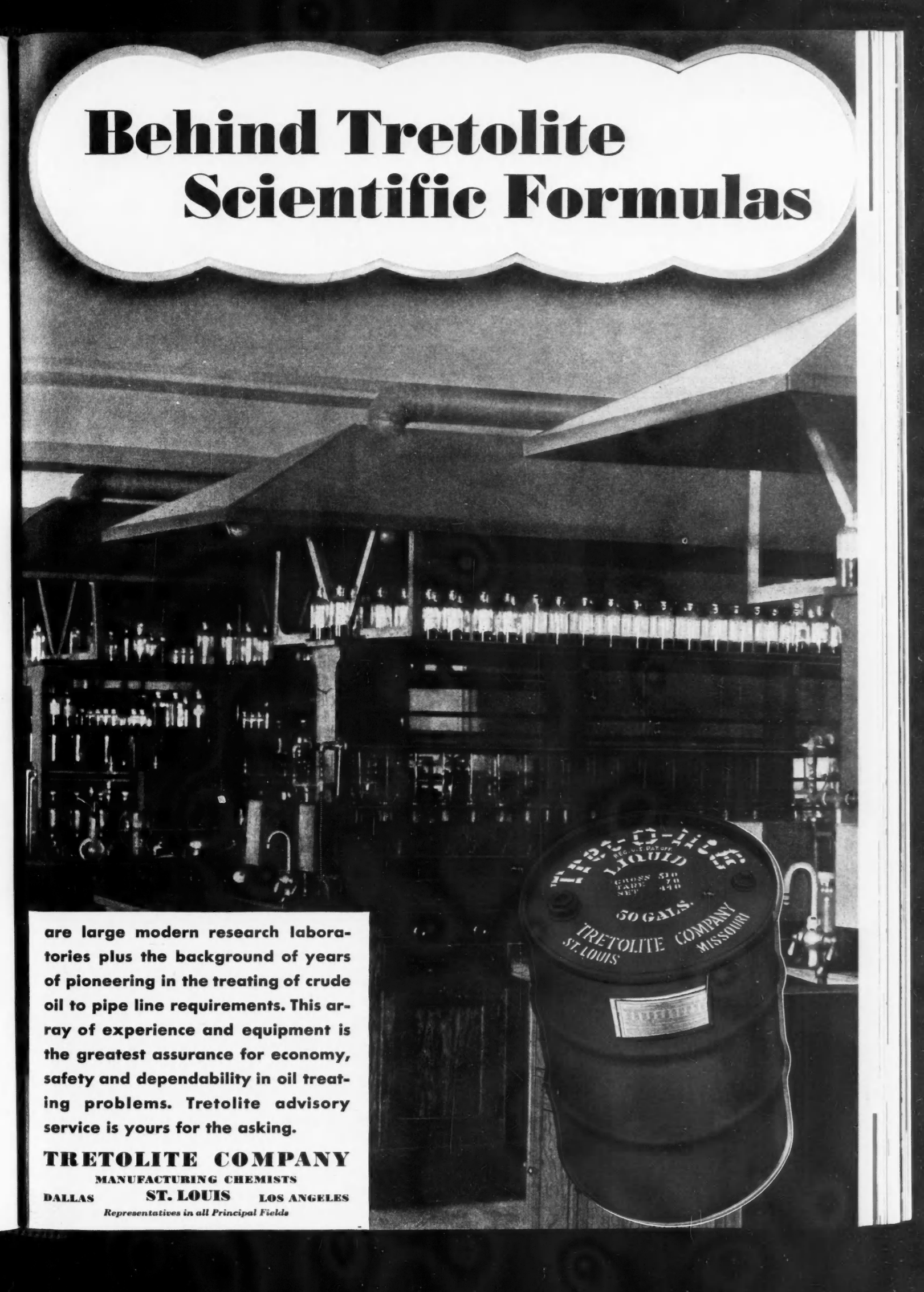

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The conservation of dome pressure, maintenance of level gas-oil and oil-water contacts, and close attention to gas-oil ratios, enhances the prospects of long flowing lives of wells in this field.

2. A second feature of unit operation from the production angle lies in the reduction of production costs by the elimination of unnecessary and redundant drilling; by avoiding the multiplication of surface plant and peak demands for auxiliary services such as roads, water, power, and housing; by reduction of hazards; and by the possibilities offered for research work on a more extended scale than is possible under conditions of independent multi-ownership.

It is pertinent to quote opinions that the total production required from the East Texas field could have been provided by many less wells than the 20,000 or so already drilled. The most striking illustrations are probably to be found in the Kirkuk field of Iraq Petroleum Company, where a total of some 45 wells has been sufficient for effective delimitation of the field and to meet the production requirements of their 1170 miles of pipe line to the Mediterranean coast. The line is of 30 millions of barrels per annum capacity and production in 1935 approximated to 27 millions of barrels. In the Haft Kel field of Anglo-Iranian Oil Company, from which approximately 27 million barrels were produced in 1935, a total of some 40 wells has been sufficient for delimitation and production purposes. Both these figures include early exploratory wells which, as is to be expected, contain a number now redundant to requirements.

3. Unit operation affords a favorable basis for maintaining production at levels in accord with consumption, thereby eliminating periods of glut. To some extent the same claims can be made for proration, but proration looks mainly to the present and is essentially the maintenance of the status quo on a reduced basis. Under unit control production can be regulated to maintain the reservoir itself as the main storage, avoiding excessive surface storage with saving in tankage, evaporation losses, and risks of fire.

A further point is that by the steady and cumulative collection of data it is possible to calculate reserves with some fair degree of accuracy, thereby enabling production programs to be framed with a minimum of waste.

4. Finally, there is the very important consideration that by reason of fluctuations of demand the various products of natural crude cannot always be satisfactorily marketed. Unit operation permits using the reservoir itself as a storehouse for such products, thereby prolonging the period over which adequate supplies of petroleum are assured. It is not, of course, claimed that such a program is suitable to every field, but where conditions, both geological and concessionary, permit, considerable wastage is avoided.

Since early in 1929, when Anglo-Iranian Oil Company adopted this policy, a total of approximately 30 million barrels of products surplus to immediate market requirements have been returned to the Masjid-i-Sulaiman Reservoir. Such products, varying in terms of market needs—light tops, natural gasoline, and, notably, fuel oil—are blended at surface before return to the reservoir. Every reasonable effort is made to reduce the viscosity of this semi-synthetic crude to a minimum. It is known that a proportion only of the total content of a reservoir is recoverable by known production methods, the remainder being retained by capillary and other forces in the smaller fissures and pores. Experiments have shown, however, that by processes of diffusion and direct displacement, the injection of heavy residues results in the recovery of some of this otherwise irrecoverable crude. Furthermore, it has been proved that if the heavy residues are injected into the gas dome, gas is absorbed with a reduction of viscosity eminently desirable to assist migration.

The case for conservation by means of unit operation has met with considerable support from within the industry; in certain countries, however, various arguments have been leveled against it.

It has been objected that for unit operation to be fully effective the limits of a pool should, in reality first be ascertained before production is drawn, in order that surface owners and their respective acreage holdings may be determined, and that it is expecting too much of human patience to call upon owners to wait, perhaps several years, before they can enter into the enjoyment of their rights. There are also those who believe that economic forces will themselves cure the evils of unrestricted production since the cost of wildcatting, exploratory surveys, and drilling can only be undertaken by those possessing ample funds. The latter will not undertake exploratory work unless they are assured of large blocks of land when unit control would, ipso facto, come into effect. It is further objected, especially in the United States, that unit operation would lead to increased governmental control, that it threatens the position of the wildcatter, and to that extent is detrimental to incentive to exploration.

All these objectives have no doubt under certain conditions some validity, but do not appear to be of sufficient weight to balance the admitted evils resulting from an unrestricted enjoyment of the capture law—colossal waste of natural power, production policies framed wholly for present advantages regardless of the future, periods of glut, low prices and general unsettlement, vast unnecessary expenditure for redundant drilling and multiplication of plant. Unit operation is, moreover, consistent with proration among pools. Economic forces are slow in enforcing their effect, during which time the position deteriorates. Finally the technical difficulties are not fully accepted by field men.

Various estimates have been issued from time to time of the relation existing between world reserves and world consumption, and it is disquieting to note that the general average of recent estimates would appear to indicate the existence of something less than 20 years' consumption.

If current estimates of the world's reserves are anywhere near the truth, there is no doubt, having regard to the enormous role played by crude petroleum in the mechanics of our modern civilization, that every effort should be made to insure that petroleum is not produced without adequate need; that it is produced with the minimum wastage; that each ton is made to do its full work; and that it is used only where it is the best and not merely an alternative source of power, light, or heat.

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POWER IMPLEMENT COMPANY MINNEAPOLIS MINNESOTA

Cathodic Protection of Tank Bottoms

By DENIS SNEIGR

THE Texas Pipe Line Company, which was instrumental in the development of the wind-driven generator for the cathodic protection of pipe lines a few years ago, within the past two years has evolved a method of protecting storage tank bottoms from electrolytic corrosion.

The corrosion of tank bottoms long has presented a problem to the industry, mainly due to the inaccessible location of tank bottoms where small leaks caused by corrosion will not be as apparent as on a pipe line. In some cases a tank will be emptied, cleaned and inspected and appear to be in perfect condition, but a sharp blow on the steel bottom plates may snap off a number of rivet heads which have been eaten almost completely through. In this way, corrosion may be active on a tank bottom and its presence not be discovered until serious damage has occurred.

There are a number of coating materials designed to protect tank bottoms, but unless these are applied correctly corrosion may proceed as rapidly as if the bottom had not been treated. In tanks subject to electrolytic action, corrosion will occur if even a small spot is left unprotected; and since one ampere will corrode 20 pounds of steel per year, a small spot unprotected will result in more immediate damage than if the action were spread over a wide area. In fact, the corrosion is worse when concentrated than when it is spread over a considerable area.

A tank farm, with large quantities of metal in direct contact with the earth, tends to attract electrical currents in that this metallic area acts as a ground to the pipe lines entering the tank farm. These currents, in leaving the tank bottoms, effect the steel tank bottoms in the same way as they would effect an unprotected pipe line. At the points where the currents leave the bottom, corrosion occurs. Most of these electrical currents enter the tanks over the pipe lines as a means of stopping this form of corrosion, The Texas Pipe Line Company has installed insulators at the gate valves leading to each tank.

The insulator consists of three ring gaskets, each ⅛ inch thick, which are installed at the gate valve connection. Two of these rings are composed of a high dielectric fiber and the third ring is of sheet steel. These rings have the necessary holes for the bolts which hold the flange assembly together. In order to complete the insulation, the bolts are encased in tubes of the same dielectric material as the insulating rings. The three rings and the bolts are assembled as shown in Figure 1.

In order to stop some of the current flow, the line which leads from the main pipe line to the tank farm is raised horizontally above the ground for a distance of from 75 feet to 150 feet. In this elevated section of pipe, one of the insulated flange unions is installed. The elevation of the pipe and the insulated flange union tends to retard the flow of current.

These insulating units were first installed on The Texas Pipe Line Company's system about two years ago at the Electra tank farm. Since then similar units have been installed at almost every tank farm of the system.

Since these insulating units have been in service only about two years, no records of results are available as yet. However, tests show that no appreciable amount of current is flowing from the tanks to the earth. As a result of these tests, it is believed that this simple method of insulating the tanks from the pipe lines will definitely eliminate a large percentage of the corrosion troubles experienced in the past with tank bottoms.

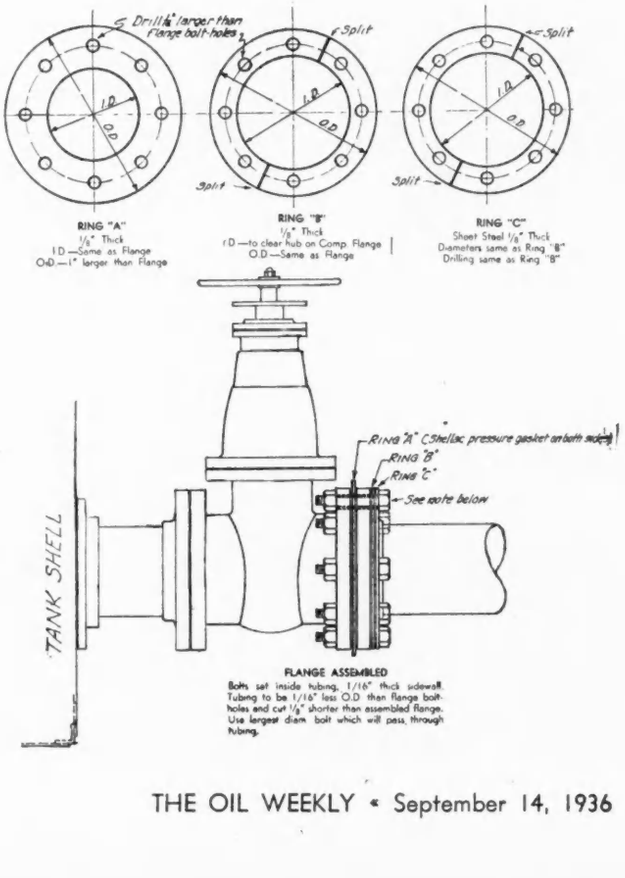

Drill ⅛" larger than flange bolt-holes
Split
Split
Split
I.D.
O.D.
RING "A"
⅛" Thick
I.D.—Same as Flange
O.D.—1" larger than Flange
RING "B"
⅛" Thick
I.D.—to clear hub on Comp. Flange
O.D.—Same as Flange
RING "C"
Sheet Steel ⅛" Thick
Diameters same as Ring "B"
Drilling same as Ring "B"
RING "A" Shellac pressure gasket on both sides
RING "B"
RING "C"
See note below
TANK SHELL
FLANGE ASSEMBLED
Bolts set inside tubing, 1/16" thick sidewall. Tubing to be 1/16" less O.D. than flange bolt-holes and cut ⅛" shorter than assembled flange. Use largest diam. bolt which will pass through tubing.

FIGURE 1

Detailed drawing of the insulating flange for tank gate valves as used by The Texas Pipe Line Company.

Gasoline Price Off

MARKETS FAIL TO STAND STRAIN AFTER LABOR DAY

THE markets have failed to stand the strain of the let-down following the Labor Day holiday, and have lost some ground. Gasoline tank-car prices eased off an eighth-cent last week in East Texas and in the Oklahoma market, but were mostly unchanged in the Chicago market, as demand held up well in that area.

Kerosene prices continue unchanged, and the market is relatively good for light fuel oils, with supplies closely held. Natural gasoline shipments lately have been reported heavy.

The decline of gasoline tank car prices in the Mid-Continent occurred immediately following the holiday. Although Texas and Oklahoma refiners were reluctant to reduce prices, they were forced to do so by competition.

The comparative strength of the gasoline market in the Chicago area, in the meantime, was ascribed to unusually heavy demand in the holiday period and to continuing ideal motoring weather generally in the Middle West.

The crude oil markets appear to be generally firm. Allowables prescribed for September by the state conservation officials of Texas, Oklahoma, Kansas, and New Mexico are closely in line with the Bureau of Mines recommendations. Consequently, it is assured that the nation's crude output for the month will conform closely with the market requirements.

Mid-Continent Prices

The eighth-cent reduction of tank car prices in East Texas at the middle of the past week brought the U. S. motor gasoline of 62 octane and below to a range of 4⅝ cents and up, f.o.b. plants. Major companies made substantial purchases during the week, and some of the plant owners disposed of most of their supplies, although others still had material for sale. The prices here given embrace only the fully tendered gasoline, eligible for interstate shipment. Lower prices prevailed as usual on material moving intra-state and not supported by the federal tenders.

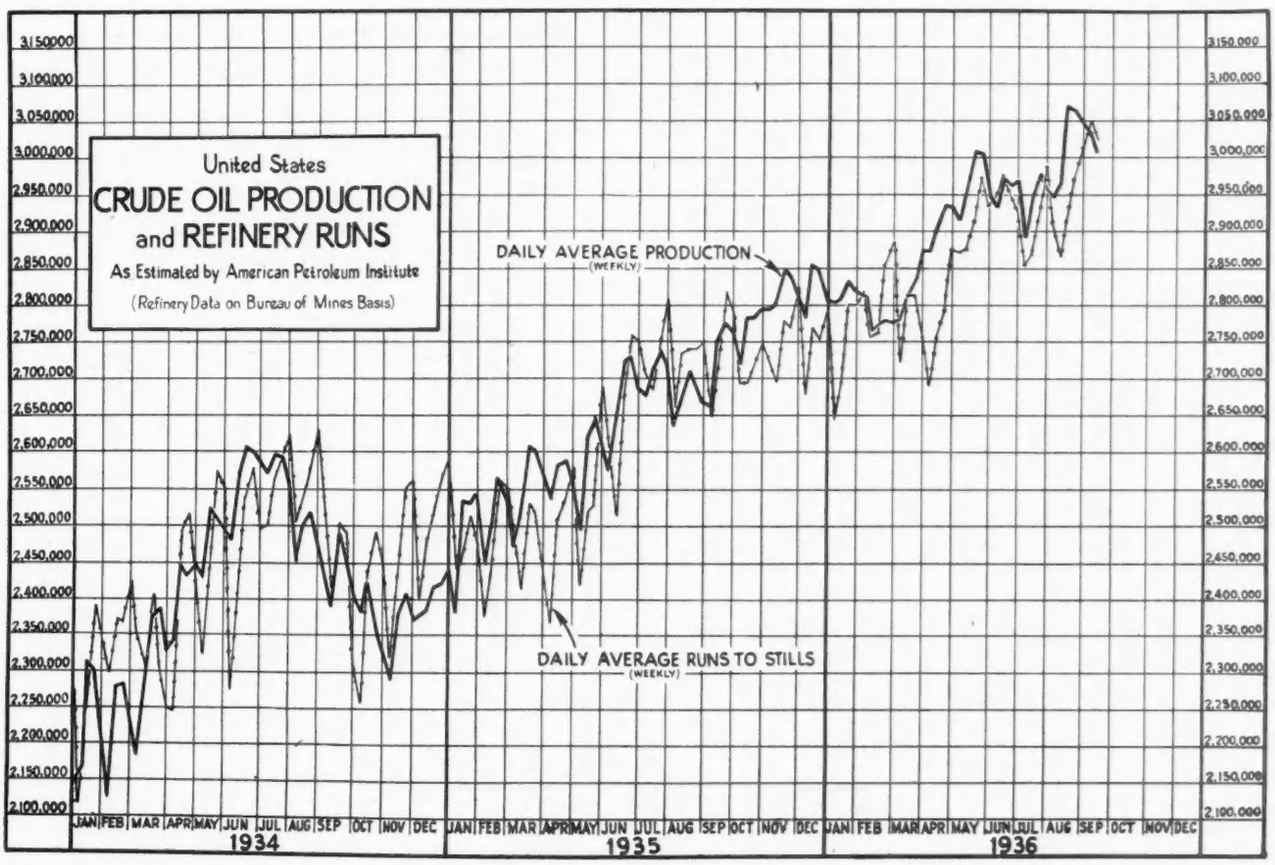
Prices of U. S. motor gasoline in the Oklahoma market appeared late last week to be about as follows: 62 octane and below, 4⅝ to 4⅞ cents a gallon; 63 to 67 octane, 5 to 5½ cents; and 68 to 70 octane, 5½ to 5⅞ cents. On all three classifications, the minimum price was down one eighth cent from the previous week's levels.

In the Chicago market the corresponding prices were: 4⅝ to 4⅞ cents, 4⅞ to 5½ cents, and 5⅜ to 5¾ cents. Those prices were about the same as in the previous week.

Kerosene prices continued unchanged, the 41-43 water white grade at 3 to 3¼ cents in both the Oklahoma and Chicago markets, and the 42-44 water white grade at 3⅛ to 3⅜ f.o.b. Oklahoma refineries and at 3⅛ to 3½ cents in the Chicago territory.

RODESSA RUNS

Shreveport.—Daily average pipe line runs from Rodessa field last week totaled 70,969 barrels, with runs to refineries totaling 2517 barrels and tank car shipments 1020 barrels. The total daily average distribution was 74,506 barrels, the daily average production 69,862 barrels, and the average runs from storage were 4644 barrels. Total cumu-



lative production of the field to September 1 is 14,310,337 barrels.

Pipe line runs by companies last week follow: Arkansas Pipe Line Company, 5639 barrels; Gulf Refining Company, 12,813 barrels; Magnolia Pipe Line Company, 8238 barrels; Standard Oil Company of Louisiana, 25,282 barrels; Leonard, no runs; The Texas Pipe Line Company, 2028 barrels; and United Gas Company, 6969 barrels.

Runs to refineries were: Eastern Texas Refining Company, 191 barrels; Griswold Refining Company, 1921 barrels; and North Caddo, 405 barrels. Tank car shipments were: Griswold, 660 barrels, and North Caddo, 360 barrels.

The report for the week ending September 9 showed wells increased 9 to a total of 45 on the Cass side and 276 on the Louisiana side of Rodessa.

East Texas Tank Car Shipments

Week Ending September 6, 1936

PRODUCTS	No. Cars	Estimated Gallons
Gasoline	684	5,569,607
Fuel Oil	300	2,787,692
Casinghead Gasoline	111	967,632
Distillate	53	419,365
Gas Oil	20	160,653
Residuum	16	129,744
Kerosene	15	121,838
Naphtha	6	44,613
Topped Crude	5	40,644
Total	1,211	10,241,788
Total Previous Week	1,337	11,260,113
Interstate	476	.....
Intrastate	422	.....
Coastwise	313	.....
Total	1,211	.....

MOTOR TAXES GAIN

The cost of federal taxes paid by motorists in July, 1936, soared to $31,733,538, an increase of 57.7 percent, or $11,606,241 more than motorists paid in July, 1935.

Bureau of Internal Revenue reports show that the federal gasoline sales tax again was the most burdensome of federal motor taxes. Receipts from this levy in July amounted to $14,512,179, or 20.8 percent above July, 1935, and accounted for about 46 percent of all federal automotive tax receipts.

The largest increase was recorded by the federal tax on tires, which cost $3,808,879 in July, 1936, a gain of 175.8 percent over July, 1935. Gains exceeding 100 percent were shown in taxes on trucks, automobiles and motor cycles, and inner tubes.

TYPE OF TAX	MONTH OF JULY 1936	MONTH OF JULY 1935	Percent Change
Automobile Trucks	$ 964,581	$ 466,821	+106.6
Automobiles and Motorcycles	7,706,395	3,089,686	+149.5
Auto Parts and Accessories	748,543	428,530	+ 74.6
Tires	3,808,879	1,382,160	+175.8
Inner Tubes	743,966	302.493	+146.0
Lubricating Oils	2,311,106	1,579,604	+ 46.4
Gasoline	14,512,179	12,013,537	+ 20.8
Transportation of Oil by Pipe Line	866,407	691,400	+ 25.3
Crude Petroleum Processed, etc	71,482	173,066	− 58.6
Total July	31,733,538	20,127,297	+ 57.7
Total six Months	154,500,961	140,889,012	+ 9.7
Total Seven Months	186,234,499	161,016,309	+ 15.7

Collections for the first 6 months of 1936 amounted to $154,500,961, up 9.7 percent from the comparable period of 1935. With the inclusion of July, 1936, collections, the gain for the first 7 months of 1936 over 1935 is brought to 15.7 percent. The table gives detailed figures by kinds of taxes.

STANDARD CONCESSION

Standard Oil Company of Venezuela is has been granted a large concession by the government for oil exploration and development contingent upon construction of a refinery, presumably in the eastern portion of the nation, at a cost of several million dollars. Most of Standard Oil Company of Venezuela's production in Venezuela is being routed to Aruba for refining.

Standard Oil Company of New Jersey issued the following statement with reference to the deal:

"While Standard Oil interests have operated three small refining plants locally, most of its crude production has been moved to the Island of Aruba for refining. The construction and operation of the new plant, which will be the largest in Venezuela, will be carried through for the most part with local labor, only the necessary technical men being supplied from the United States. When completed it is expected that Venezuela will become an important exporter of finished products and will do some ship bunkering business. The new plant will involve an immediate outlay of several million dollars and plans contemplate its expansion later on as conditions warrant."

MINERALS YEARBOOK

Publication of the "Minerals Yearbook, 1936," is announced by the United States Bureau of Mines, Department of the Interior. The volume contains 69 chapters, 154 illustrations, and 1136 pages, and provides in convenient form a comprehensive and accurate record of economic developments and trends in the mineral industries of the United States during 1935. In addition to a presentation of the fundamental statistics of the production and marketing of a hundred commercial minerals, world production of minerals and the economic aspects of international mineral policies are reviewed.

Summary of Wells Completed in the United States Week Ending September 12, 1936

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1936	Total Completions this Date, 1935
Alabama	....	....	....	....	.....	2	4
Arkansas	2	....	....	2	.....	73	97
California	17	17	....	....	11,560	756	602
Colorado	1	1	....	....	240	10	8
Florida	....	....	....	....	.....	2	....
Illinois	....	....	....	....	.....	4	9
Indiana	....	....	....	....	.....	143	153
Kansas	34	22	2	10	39,699	1,160	973
Kentucky	8	5	....	3	185	199	129
Louisiana	21	14	2	5	18,908	732	530
Michigan	16	8	6	2	2,170	550	375
Mississippi	....	....	....	....	.....	5	16
Montana	5	3	....	2	330	112	115
New Mexico	12	10	....	2	9,939	406	198
New York	....	....	....	....	.....	....	....
Ohio	34	2	14	18	45	1,310	1,043
Oklahoma	53	39	3	11	34,478	2,054	1,680
Pennsylvania	....	....	....	....	.....	....	90
Texas	56	188	6	62	204,583	8,823	8,518
Utah	....	....	....	....	.....	....	1
West Virginia	....	....	....	....	.....	465	332
Wyoming	2	2	....	....	3,720	56	53
Total this week	461	311	33	117	325,857	16,862	14,927
Total last week	504	345	41	118	427,670	....	....
Total this year	16,865	11,304	1,586	3,975	16,209,273	....	....

Comparison of Permits Granted For New Wells

STATE—	Week Ending Sept. 12	Total this Mo.	Total this Year	Total this Date Last Year	1935 Year Total
Arkansas	3	4	6	4	70
California	22	5	73	667	92
Louisiana	16	4	832	5	84
Kansas	30	60	1,280	77	
Michigan	7	19	514	452	749
Oklahoma	52	99	1,726	1,574	2,311
Texas	230	387	10,409	7,739	10,800
Total	360	668	15,565	13,337	16,964

FURTHER DECLINE

But crude output still above bureau figure

NITED STATES crude oil production averaged 3,000,300 barrels daily during the past week, ended September 12. That was 16,575 barrels a day less than in the previous week. It was 136,300 barrels a day more than the Bureau of Mines recommendation for average daily output in September.

The lower production last week, as compared with that of the previous week, was primarily the result of the cutting back of Texas allowables. That state's output decreased about 44,000 barrels, and Louisiana registered a small decrease. Those declines more than offset important gains in Oklahoma, Kansas, California, and New Mexico.

The Texas output last week averaged 1,133,400 barrels daily, and while it was down about 44,000 barrels from the previous week, the state still was about 10,000 barrels above the Bureau of Mines recommendation.

Oklahoma rose to 565,450 barrels daily from 558,750 barrels a day the previous week, and in the new period was 2450 barrels per day above the federal allocation.

Kansas last week averaged 162,850 barrels daily, or about 6000 barrels a day more than in the previous week, and was 2850 barrels above the federal quota.

California Up

California production averaged 588,000 barrels daily, or 20,000 barrels a day more than in the previous week. The new rate was 52,800 barrels a day higher than the Bureau of Mines recommendation. However, the state usually shows a decline in the latter part of each month.

New Mexico last week averaged 79,500 barrels, an increase of 1400 barrels over the previous week's rate, under the influence of a higher state allowable. The new rate was 7900 barrels above the federal quota.

Louisiana's output decreased to 233,850 barrels daily from 239,600 barrels a day the previous week, but it still was 47,650 barrels a day above the federal allocation.

San Antonio.—Amerada Petroleum Corporation will employ directional drilling in development of Austin chalk production in Pearsall field of Frio County. Work will be commenced shortly on the first test, which will involve drifting a hole from the casing seat through 500 feet of chalk. Production is found at 5200-5700 feet in this field.

The purpose of this operation is to cut the vertical porous sections of the chalk. The formation seems to be laid in this direction rather than horizontal. This leads to the belief that large producers will be possible from all tests drilled on the structure.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in Sept.)	ACTUAL PRODUCTION; BARRELS DAILY FOR WEEK ENDING	
		Sept. 12	Sept. 5
TEXAS—			
Texas Panhandle	.....	63,500	61,800
North Texas	.....	61,500	61,500
West Central Texas	.....	26,400	26,600
West Texas	.....	168,300	182,100
East Central Texas	.....	57,100	61,200
*East Texas Field	.....	434,700	435,400
†South Texas	.....	78,600	87,900
†Texas Gulf Coast	.....	243,300	261,000
*Total Texas	1,123,900	1,133,400	1,177,500
OKLAHOMA—			
Oklahoma City	.....	136,250	142,225
Seminole Area	.....	141,750	134,000
Tatums	.....	3,150	3,125
Lucien	.....	13,225	12,250
Fitts	.....	62,375	56,425
Edmond	.....	11,325	14,475
Others	.....	197,375	196,250
Total Oklahoma	563,000	565,450	558,750
KANSAS—			
Ritz-Canton	.....	5,900	6,300
Voshell	.....	2,950	3,000
Nikkel-Hollow	.....	3,800	3,925
Sedgwick	.....	4,950	4,975
Burrton-Haury	.....	14,150	14,650
Lorraine	.....	6,000	4,725
Oxford	.....	3,800	3,550
Others	.....	121,300	115,375
Total Kansas	160,000	162,850	156,500
LOUISIANA—			
North Louisiana	.....	81,250	86,200
Louisiana Gulf Coast	.....	152,600	153,400
Total Louisiana	186,200	233,850	239,600
ARKANSAS	30,500	28,150	28,925
CALIFORNIA—			
Long Beach	.....	66,250	66,000
Santa Fe Springs	.....	45,400	43,000
Huntington Beach	.....	36,550	35,500
Dominguez	.....	25,550	26,000
Inglewood	.....	13,850	11,500
Ventura Avenue	.....	33,700	33,000
Seal Beach	.....	10,000	9,700
Midway-Sunset	.....	63,350	52,800
Elwood	.....	10,900	11,500
Kettleman Hills	.....	76,650	81,000
Mountain View	.....	25,200	25,500
Playa del Rey	.....	11,950	12,000
Others	.....	168,650	160,500
Total California	535,200	588,000	568,000
MOUNTAIN STATES—			
Wyoming	37,200	39,900	41,500
Montana	13,500	18,800	18,400
Colorado	4,500	4,900	4,900
Total Rocky Mountain States	55,200	63,600	64,800
NEW MEXICO	71,600	79,500	78,100
EASTERN STATES	107,100	114,200	113,500
MICHIGAN	31,300	31,300	31,200
*Total United States	2,864,000	3,000,300	3,016,875
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	.....	15,000	15,000
Grand Total, including surreptitious production	.....	3,015,300	3,031,875

† Coastal section of South Texas is included with Texas Gulf Coast.

To Curb Oil Use

SOVIETS LAUNCH VIGOROUS CONSERVATION MOVEMENT

By LUCIEN ZACHAROFF

WHILE the Soviet oil industry is somewhat lagging behind the crude production quota for 1936, consumption of oil is exceeding the plan, according to the findings of a control commission which, at the behest of the Moscow government, has just investigated the situation.

As a result, within a day or two after the commission made its report public, an intensive campaign for greater economy in the use of oil was launched in the Soviet press. Stress is laid on the principal consumers, which include 92 enterprises of the following commissariats: heavy industry, transport, food industries, light industry and local industries of the Russian Republic proper.

The commissariat of heavy industry appears the heaviest violator. According to the government plan for the first quarter of 1936, it should have used 953,000 tons of oil; the actual consumption was 1,202,000 tons. During the second quarter overconsumption reached 181,000 tons. Thus, during the first six months of 1936 the heavy industry enterprises burned 430,000 tons of fuel over their quota—a 23.6 percent excess.

That figure almost amounts to the combined total annual consumption of two other commissariats: light industry and food industries. Nor is that all. On December 2, 1935, the government had ordered the commissariat of heavy industry to reduce its use of oil by 221,800 tons in 1936 and by 430,000 tons in 1937 through the introduction of other kinds of fuel. The control commission now finds that the principal enterprises and administrators have remained rather indifferent to the governmental decree. Investigation by the commission reveals that in the first half of 1936 the transfer to other forms of fuel had been accomplished by a handful of organizations whose total annual consumption of oil amounts to the insignificant figure of 29,900 tons . .

It is pointed out that the heavy industry administration has been altogether too generous with its enterprises. The plan for the first 1936 quarter called for deliveries of 851,000 tons, but 1,137,000 ton were delivered—33.6 percent over the plan. The plan for the second quarter provided for deliveries of 845,000 tons, but the commissariat delivered 1,069,800 tons, 26.6 percent over the norm.

During the second quarter, it is noted, in addition to a substantial general consumption, heavy industry enterprises had burned 168,000 tons of crude and 33,300 tons of refined oils and kerosene. Crude oil was intended to be worked over, but when it was needed, it was discovered that the supply had all been burned.

Delivery Plan Unfulfilled

At the same time, the delivery plan for other consumers was chronically unfulfilled. During the first quarter of this year the plan was met only to the extent of 82.1 percent, during the second quarter it dropped to 80 percent.

An illuminating breakdown by individual plants and factories is provided in the statistical compilation of the control commission, clearly demonstrating, according to the commission, unjustified extravagance in the use of oil.

Overconsumption was disclosed at the commissariat for transport, too. There, during the first six months of 1936, some 228,000 tons over the plan were used. This is the result not only of the commissariat's going over its quota of work, but also of its burning of oil above the specific norms, which reached during the first quarter 294 kilograms per 10,000 ton-kilometers gross-weight, as against 285 kilograms provided for in the plan. A similar situation prevailed in the second quarter. In April specific consumption was 255 kilograms as against 225 kilograms in the plan; in May it was 240 kilograms.

It must be noted, however, that the commissariat for transport has been effective in transferring the Soviet railroads to the use of other forms of fuel than oil. According to a government decision, the commissariat must transfer from oil to coal at least 1062 locomotives in 1936. By August 10 already 874 had been thus transferred.

Commissariat of food industries shows comparatively low percentage of overconsumption, while that of light industry is not exceeding its allotment.

At present the price range in fuels is such in the Soviet Union that the most advantageous to use is the black mineral oil. Hence, many enterprises seek to purchase it, instead of following the order of Heavy Industry Commissar Ordjonikidze to transfer to coal.

Lack of Control Cited

Writing in a recent issue of the *Izvestiya,* A. Kuznetzoff states that certain heavy industry plants, as well as some railroads, apparently figure that rather than have their work stopped, the authorities will at a critical moment provide them with an additional supply of oil.

In the *Pravda,* G. Lomoff maintains that "Overconsumption of oil is a direct result of lack of necessary control on the part of the people's commissariats and their principal administrations as well as of the irresponsible attitude of heads of enterprises toward an economic use of oil. A certain effect here is had by the unsatisfactory condition of the aggregates, lack of control-measurement apparatus, ineffectual instruction of the service personnel, absence of concrete plans for realizing rationalization measures, and the absence of persons who could be held to account for the consumption of oil at the factories."

Soviet press commentators, now campaigning for greater conservation of oil supply, appear to be agreed on Mr. Kuznetzoff's conclusion:

"The respective chief administrations as well as the sector of fuel supply are following the lines of least resistance. The irresponsible attitude of enterprise heads toward the fulfillment of the state plan for the country's fuel supply leads to excessive burning of oil. It is essential to change decisively the prevailing practice. Despoilers of petroleum must receive a firm slap on their hands."

FLOOD HALTS TRAFFIC
Mexican Gulf's Tampico terminal is submerged

Property damage of a considerable extent was suffered by petroleum companies in the Tampico sector of Mexico from recent floods. At present, the most apparent loss to the oil companies is the difficulty in land movement of oil and by-products to domestic and foreign markets because of the high water, which has crippled a large proportion of services of the National Railways of Mexico and lesser transportation companies. Destruction of a large bridge on the Tampico-San Luis Potosi division of the railways was a heavy blow to petroleum companies' shipping departments.

In some sections of the Tampico sector, water rose to a height of 37 feet. The Prieto terminal of the Mexican Gulf Oil Company in Tampico was completely submerged. The city's water supply was shut off by the flood invading the water works.

INCREASE PREDICTED

Petroleum production for 1936 of approximately 44,000,000 barrels, the highest in many years, is predicted by the Mexican ministry of national economy as a result of increased numbers of productive wells in several zones. The ministry anticipates that Mexico will move up from the seventh place she has held for some time in world petroleum production.

Part of the optimism, it is felt in Mexico City circles, is due to recent activity in the El Plan zone of the Isthmus of Tehuantepec, where Mexican Eagle Oil Company is developing attractive production at around 2810 feet.

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to September 11, 1936)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28–$0.94	2¢	40—$1.18	1- 9-36
N. and N.-C. Texas	28— .84	2¢	40— 1.08	1- 9-36
Texas Panhandle				
Gray County	34— .86	2¢	40— .98	1- 9-36
Carson-Hutchinson	34— .81	2¢	40— .93	1- 9-36
West Texas				
Ector, Pecos, W'kler Crane, Upton, Howard and Glasscock	29— .76	2¢	36— .90	1-14-36
West Central Texas	28— .84	2¢	40— 1.08	1- 9-36
East Central Texas	28— .91	2¢	40— 1.15	1- 9-36
East Texas	*1.15			1- 9-36
Talco	* .60			4-15-36
Texas Gulf Coast				
Anahuac-Dickinson	30— 1.04	2¢	40— 1.24	1- 9-36
Conroe	35— 1.24	2¢	40— 1.34	1- 9-36
Tomball	*1.30			1- 9-36
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Racoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 17— .88	2¢	34— 1.22	1- 9-36
South and S. W. Texas	Below			
Refugio (Light)	17— .88	2¢	34— 1.22	1- 9-36
Refugio (Heavy)	*.90			1- 9-36
Saxet	*.90			1- 9-36
Mirando	*.85			1- 9-36
Pettus	*1.25			1- 9-36
Salt Flat	*.97			1-14-36
Darst Creek	*.97			1-14-36
Placedo (Heavy)	*.85			4- -36
Placedo (Light)	*.95			4- -36
Port Lavaca	*.97			
Plymouth	*.90			12-17-35

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Arkansas				
El Dorado (Light) and Rainbow	25— $.78	2¢	40—$1.10	1-10-36
El Dorado East Field and Smackover	*.75			1-10-36
North Louisiana	25— 0.78	2¢	40— 1.10	1-10-36
Urania	*.97			1-10-36
South Louisiana	Below			
Lockport	19— .92	2¢	34— 1.22	1- 9-36
Iowa Cameron Mds.	19— .82	2¢	34— 1.12	1- 9-36
Rocky Mountain States				
Salt Creek	29— .94	2¢	40— 1.18	1-10-36
Elk Basin	*1.18			7-20-36
Grass Creek (Light)	*1.18			7-20-36
Grass Creek (Heavy)	*.58			1- 9-36
Big Muddy	*1.11			1- 9-36
Rock Creek	*1.12			1- 9-36
Sunburst	*1.15			6- 5-36
Lance Creek	*.90			1- 9-36
Osage	*1.08			
Cat Creek	*1.07			8-25-33
Cut Bank	*1.35			6- 3-36
Ponders	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.25			1-10-36
Illinois	*1.23			1- 9-36
Princeton	*1.23			1- 9-36
Western Kentucky	*1.23			1- 9-36
Pennsylvania				
Bradford	*2.45			1-13-36
Sw. Pa. Pipe Line	*2.17			1-13-36
Eureka Pipe Line	*2.12			1-13-36
Buckeye Pipe Line	*1.97			1-13-36
Corning Grade	*1.42			1-13-36
Michigan				
Central Michigan	*1.42			6-15-36
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

* All gravities—flat rate.
‡ Average price, all oil sales being to small refineries.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Cut °4
September 6, 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up °28
November 18, 1935	Up 15	.....	.....
December 6, 1935	.....	.....	Up °9
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....
February 26, 1936	.....	.....	Up '5

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

TEXAS—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and 3/8 of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

* All gravities—flat rate.
° Signal Hill 26 gravity.
' Seal Beach 26 gravity.

CALIFORNIA OIL PRICES

(All gravities above those quoted take highest prices of that field. Effective February 26, 1936)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canyon	Athens Rosecrans	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs	New Hall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Buena Vista Hills Elk Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$.80	$.79	$.78	$.79	$.80	$.76	....	....	$.80	$.76	$.76	$.77	$.78	.....	$.70	....	$.70	$.70	$.70	....
15-15.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
16-16.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
17-17.9	.80	.79	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
18-18.9	.80	.79	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
19-19.9	.82	.79	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	.....	.70	$.70	.74	.74	.71	$.70
20-20.9	.85	.79	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	.....	.....	.70	.78	.78	.72	.70
21-21.9	.88	.79	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	.78	.....	.73	.82	.82	.74	.70
22-22.9	.92	.82	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	.....	.77	.87	.86	.78	.72
23-23.9	.95	.86	.96	.99	1.02	.96	$.84	....	.96	.88	.93	.82	.92	.78	.....	.80	.92	.90	.82	.76
24-24.9	.99	.91	1.00	1.02	1.06	.99	.88	....	.99	.91	.96	.85	.96	.82	.....	.84	.97	.94	.86	.79
25-25.9	1.03	.95	1.03	1.05	1.11	1.03	.93	....	1.02	.95	....	.89	.99	.86	.....	.88	1.01	.98	.90	.83
26-26.9	1.06	1.00	1.07	1.09	1.16	1.06	.98	....	1.05	.98	....	.92	1.03	.90	.....	.91	1.06	1.02	....	....
27-27.9	1.10	1.05	1.11	1.12	....	1.10	1.03	....	....	1.02	....	.96	1.06	.95	.....	.95	1.10	1.06	....	....
28-28.9	1.14	1.10	1.14	1.15	....	1.14	1.07	....	....	1.06	....	.99	1.10	.99	.....	.99	1.15	1.10	....	....
29-29.9	1.17	1.15	1.18	1.18	F.O.B.	1.17	1.12	....	....	1.09	....	1.03	1.14	1.03	.....	1.02	1.20	1.14	....	....
30-30.9	1.21	1.19	1.22	1.21	Pipe	1.21	1.17	F.O.B.	....	....	....	1.07	1.17	1.08	.....	1.06	1.25	1.18	....	....
31-31.9	....	....	....	1.24	Line	1.24	1.22	Ship	Kettleman Hills			1.11	1.21	1.12	.....	1.09	1.29	....	....	....
32-32.9	....	....	....	1.27	....	1.27	1.27	....				1.14	1.25	1.16	.....	1.13	1.34	....	....	....
33-33.9	....	....	....	....	....	....	1.32	$1.28		1.19		1.18	1.28	1.20	.....	1.17	1.38	....	....	....
34-34.9	....	....	....	....	....	....	1.37	1.32	....	1.23	....	1.22	1.32	1.25	.....	1.20	.....	....	....	....
35-35.9	....	....	....	....	....	....	1.42	1.35	....	1.27	....	1.25	....	1.29	.....	....	.....	....	....	....
36-36.9	....	....	....	....	....	....	1.46	1.39	....	1.31	....	1.29	....	1.33	.....	....	.....	....	....	....
37-37.9	....	....	....	....	....	....	1.51	1.43	....	1.35	....	1.32	....	1.37	.....	....	.....	....	....	....
38-38.9	....	....	....	....	....	....	1.56	....	....	1.39	....	1.36	....	1.42	.....	....	.....	....	....	....
39-39.9	....	....	....	....	....	....	1.61	....	....	1.43	....	1.40	....	.....	.....	....	.....	....	....	....
40-40.9	....	....	....	....	....	....	1.66	....	....	....	....	1.43	....	.....	.....	....	.....	....	....	....

HOW LONG HAS IT BEEN

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TEXAS LEASE SALE

Austin.—The State Board for Lease of University Lands has announced that another public auction will be held in Austin on October 30 to dispose of school lands.

Lease of 76 tracts, containing a quarter section each, will be listed for sale. The tracts are located in Ector, Crane and Andrews Counties. Details are set up in the attached table.

ECTOR COUNTY

Tract No.	Block	Section	Description	Acres
1	35	4	SE¼	164.4
2	35	6	NW¼	160.9
3	35	6	NE¼	160.9
4	35	9	NE¼	160.9

CRANE COUNTY

5	31	1	SW¼	160
6	31	12	SW¼	160
7	31	13	SW¼	160
8	31	24	NE¼	160
9	30	19	NE¼	160
10	30	20	NE¼	160

ANDREWS COUNTY

11	9	6	SE¼	149.4
12	9	4	SE¼	151.5
13	9	9	SE¼	164.3
14	9	8	SE¼	164.3
15	10	13	SE¼	168.1
16	9	18	SE¼	163.7
17	9	17	SE¼	163.7
18	9	16	SE¼	163.7
19	9	21	SE¼	162.2
20	9	20	SE¼	162.2
21	9	19	SE¼	162.2
22	10	24	SE¼	166.5
23	10	25	SE¼	165.2
24	9	30	SE¼	160.8
25	9	29	SE¼	160.8
26	9	28	SE¼	160.8
27	9	33	SE¼	161.0
28	9	32	SE¼	161.0
29	9	31	SE¼	161.0
30	10	36	SE¼	165.4
31	9	42	SE¼	161.0
32	9	41	SE¼	161.0
33	9	40	SE¼	161.0
34	9	45	SE¼	159.2
35	9	44	SE¼	159.1
36	9	43	SE¼	159.1
37	13	3	NE¼	160.5
38	13	1	NE¼	160.5
39	13	12	NE¼	160.6
40	13	11	NE¼	165.5
41	13	10	NE¼	160.5
42	13	15	NE¼	160.5
43	13	14	NE¼	160.5
44	13	13	SW¼	160.6
45	13	23	NE¼	160.9
46	13	24	SW¼	161.0
47	13	26	NE¼	160.9
48	13	25	SW¼	161.0
49	13	36	NE¼	161.0
50	13	34	NE¼	160.9
51	13	36	SW¼	161.0
52	13	37	NE¼	161.0
53	13	38	NE¼	160.9
54	13	39	NE¼	160.9
55	13	47	NE¼	160.9
56	13	48	NE¼	161.0
57	12	6	NE¼	160.5
58	12	4	NE¼	161.3
59	12	3	NE¼	161.3
60	12	10	NE¼	161.3
61	12	9	NE¼	161.3
62	12	8	NE¼	161.3
63	12	7	NE¼	160.5
64	12	17	NE¼	161.3
65	12	16	NE¼	161.3
66	12	15	NE¼	161.3
67	12	21	NE¼	161.6
68	12	20	NE¼	161.6
69	12	19	NE¼	160.7
70	12	29	NE¼	161.6
71	12	32	NE¼	161.8
72	12	33	NE¼	161.8
73	11	17	NW¼	168.1
74	11	20	NW¼	166.5
75	11	22	NW¼	166.5
76	11	14	NW¼	168.1

NEARING SUNBURST

Madison lime is objective of Del Bonita wildcat

By JOSEPH S. IRWIN, Geologist, Calgary, Alberta

AMONG the more promising and important Canadian exploratory drilling operations is the well now being drilled by Sunshine Oils, Limited, of Vancouver on the Del Bonita anticline, where the company controls about 7000 acres. The well is located in Section 19, Township 1, Range 21 West of the 4th Meridian in the Province of Alberta. The location is approximately 50 miles south of Lethbridge and 25 miles northwest of the Cut Bank oil field of Montana.

Del Bonita structure is one of the three localities selected by Nordon Corporation after an exhaustive investigation in 1929 and 1930. Later, Parco Oil Company (Prairie Oil & Gas-Producers and Refiners Corporation) core drilled the covered portion of the structure in return for an interest in the Nordon acreage block. Core drilling confirmed the existence of a structure, but the Parco withdrew from all Canadian activities about this time as a result of the merger of the parent companies with Sinclair interests.

Then followed the drilling of the first well on Del Bonita anticline by Terminal Oil Company, an independent group headed by S. Myron Zandmer of Los Angeles. This well proved the occurrence of both oil and gas on the structure, but, as is so often the case with an initial well, it proved to be located so near the crest of the structure that most of its zone of porosity in the Madison limestone was filled with gas rather than oil. The well is capable of producing 3 million cubic feet of gas and 40 barrels of oil per day and is furnishing fuel for the adjacent Sunshine and Twin River wells.

Results in the Terminal well immediately caused realization by Sunshine Oils of the theoretical value of their leases located somewhat down structure along the flank of the anticline. Locations lower on structure than the Terminal well may be expected to encounter progressively less gas and more oil. How far out and down structure the productive area may extend is, of course, problematical and will require development to determine.

In addition to the demonstrated possibilities in the Madison limestone, the Sunburst, Cut Bank, and other sands which produce oil in the adjacent Cut Bank and Kevin-Sunburst fields of Montana yielded strong showings in the Terminal well through 4600 feet of rotary drilling mud. Unfortunately these sands were not cored or tested in any way in the Terminal well, as a preconceived plan to drill directly to the Madison lime was strictly adhered to.

The Sunshine company expects to core and test all appreciable showings. The chances for a new Alberta oil field may be considered good.

The currently drilling test of Sunshine Oils, Limited, spudded June 22

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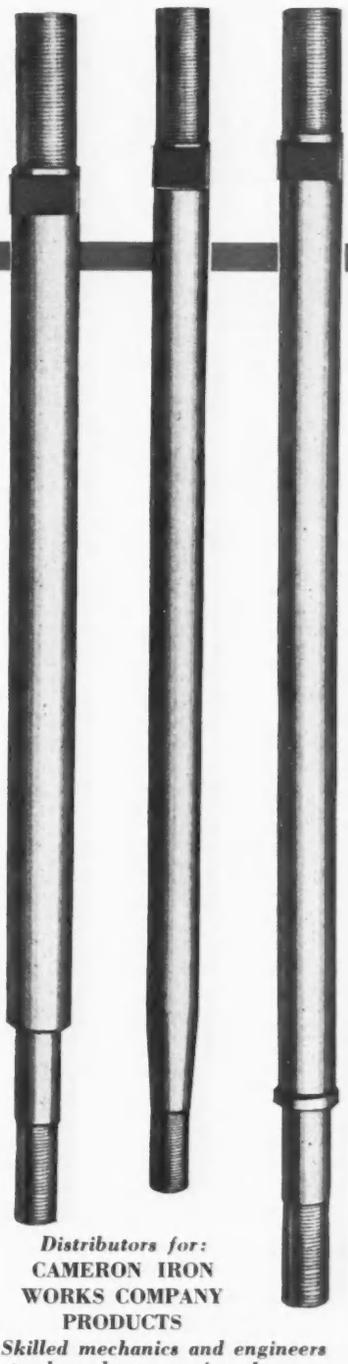

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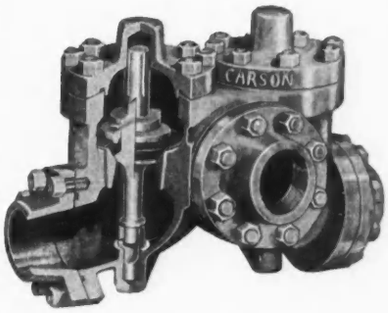

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and is drilling below 3900 feet, according to word received from Vancouver September 9. The operators expect to reach the Sunburst sand about September 15, at which time the heavy duty rotary will be replaced by a cable tool rig as soon as casing has been set immediately above the sand.

Madison lime is the main objective, which Irwin expects around 5100-5150 feet. Whether the company will switch back to rotary after testing the Sunburst depends upon the value of showings there. A commercial producer in the Sunburst will cause the operators to drill another test to determine the value of the Madison.

Record Potential

CRESCENT FIELD WELL GOOD FOR 64,679 BARRELS

WEEKLY STAFF REPORT

Oklahoma City.—Oil men over the entire Mid-Continent are watching the Crescent pool, Logan County, where Carter Oil Company and Gulf Oil Corporation's Walker 3, NW NE NE 33-17n-4w, last week made a 24-hour potential of 64,679 barrels daily. This is the highest potential given any Oklahoma well in the past four years. Production came from the second Wilcox sand between 6264 and 6291 feet. The sand was topped at 6182 feet, and began softening at 6264 feet.

The same interests were rigging up to deepen Walker 1, C NE NE 33-17n-4w, which came in at an earlier date to produce 2500 barrels at 6114 feet. Their Miller 3, SE NW SE 28-17n-4w, is plugging back to shut off water. Miller 3 had a potential rating of 50,095 barrels when tested in July. It cut 15 to 20 percent water when opened.

Sinclair Prairie Oil Company's Phillips 2, SEc NW 28-17n-4w, topped the Chattanooga series at 6135 feet, about 15 feet higher than Phillips 1, a gasser. It is drilling ahead below 6290 feet.

In the Moore pool of Cleveland County, Gulf Oil Corporation's James 1, NWc SW 27-10n-2w, stopped at 7262 feet and bailed down 2400 feet. Fluid immediately began filling the hole, and the well was closed down for lack of storage. The well is estimated to be good for about 20,000 barrels of oil and possibly 50,000,000 cubic feet of gas daily.

Anderson-Pritchard Oil Company's State 1, SWc SE 16-10n-2w, stopped at 7254 feet, and bailed down 1000 feet at which time the well began flowing and was directed into pits. After being shut in for two hours, the well was reopened and flowed 472 barrels of oil in four hours with 50,000,000 cubic feet of gas. Hourly flows on the well were as follows: First hour, 105 barrels; second, 121 barrels; third, 136 barrels; fourth, 110 barrels, and 105 barrels the fifth hour. When opened the following morning, the well flowed 136 barrels of oil the first hour, and had 56,000,000 cubic feet of gas. The sand is very hard, and operators may drill deeper or shoot. It is only about 25 feet in the sand, according to the reports of company geologists. Top of the sand was had at 7210 feet, and total depth is 7256 feet.

Failures at Moore

Sinclair Prairie Oil Company's Fant 1, NWc 27-10n-2w, was estimated good for from 20,000 to 25,000 barrels of oil, and from 70,000,000 to 75,000,000 cubic feet of gas. After drilling to 7294 feet, and being bailed and allowed to clean itself, it flowed 440 barrels the first hour and 375 barrels the second hour, accompanied by 29,500,000 cubic feet of gas.

In Oklahoma County, the northeast trend of the Britton pool was apparently defined by Sinclair Prairie Oil Company et al's Buxton 1, NWc 16-13n-3w, which was shut down for orders after running an electrical well-logging device to the total depth of 6930 feet. A core taken from 6916 and 6930 feet showed a recovery of white, dry sand. The well had previously shown the same formation in a core taken from 6911 to 6916 feet.

Another failure in the same area was Sinclair Prairie Oil Company's Stubbeman 1, NE SW NW 34-10n-2w, which had white streaks and showed salt water in a core taken from 7377 to 7394 feet. Top four feet of the recovered core was dolomite with no show. The bottom eight feet was brown sand with a show of oil and gas, and the balance showed white streaks with salt water. The well topped the Wilcox sand at 7381 feet, and was drilled to 7394 feet, where an electrical well-logging device showed some oil and salt water.

The same interest's Hussman 1-B, CNE SW 21-10n-2w, was shot with 10 quarts between 4500 and 4545 feet, and had salt water slopping over the casing. The well may be used for salt water disposal, unless operators decide to plug and abandon.

Ohio Oil Company's Pettigrew 1, SW SE SE 8-13n-3w, was to drill deeper from 6663 feet where it was flowing 42 barrels of oil per hour and had gas estimated at 18,500,000 cubic feet daily. On a production test the well made 275 barrels of oil in 13 hours.

The Edmond pool of Oklahoma County reported three wells completing potential tests as the week ended. Ohio Oil Company's Dahl 13, NW SE SE 31-14n-3w, was given a potential of 21,076 barrels of oil, following a shot. It was at 6545 feet in the Wilcox sand.

Continental Oil Company's Young 10, SW SE NW 31-14n-3w, was given a potential of 14,307 barrels of oil from 6712 feet in the Wilcox sand after being shot with 80 quarts.

Slick-Urschel Oil Company et al's Suneram 4, SE NW NE 6-13n-3w, was acidized with 4000 gallons and made a potential estimated at 8817 barrels of oil from a total depth of 6690 feet in lime and dolomite.

In the Oklahoma City oil field, operators were busy taking potentials on all wells in the Wilcox zone, where officials are running under a heavy schedule of 24 wells each day. September 8, approximately 156 wells had been tested to establish a new potential for the field of 836,573 barrels of oil, a decrease of 27.96 percent from the potential of 1,161,316 barrels for

CARDENAS HOPEFUL

Is optimistic over progress of "Petromex"

Optimism regarding Mexico's petroleum industry was expressed by President Lazaro Cardenas in his annual message to congress, covering the year September 1, 1935, to August 31. He reported that:

The federal oil reserves were expanded with the incorporation of 2,600,000 hectareas (about 5,850,000 acres), part of which was turned over to the Compania de Petroleos de Mexico, S. A. (Petromex), the semi-official petroleum company; oil production was stimulated with the simplification of the expedition of official regulations; Petromex greatly expanded its activities, making explorations in various oil zones, bringing in several wells, including No. 5 which has an average daily production of 3300 barrels. He cited the establishing of a primary refining plant which treats 3000 barrels of crude daily that yields 120,000 liters of gasoline and other by-products; and that the government is completing installation of a plant for distilling by the disintegration method with a daily capacity of 1100 barrels. This plant will cost 1,400,000 pesos (some $392,000 U. S.). Another Petromex plant for extracting asphalt, with a daily capacity of 1000 barrels, is nearing completion.

Petromex, of which Engineer Pascual Ortiz Rubio, ex-chief executive of Mexico, is head, announces that it is arranging to purchase a fleet of tankers of a type and capacity identical to those used by foreign oil companies operating in this country. It is intimated that the tankers will be bought in the United States.

16 LOUISIANA PERMITS

Shreveport, La.—Sixteen drilling permits were authorized last week in Louisiana by the minerals division, State Conservation Commission. Of these, 7 were in North Louisiana divided among the following parishes: Bossier, 3; Caddo, 1 (in Rodessa); La Salle, 1; and Webster, 2. In South Louisiana the 9 permits were divided among the following parishes: Acadia, 4; Calcasieu, 1; Iberia, 2; La Fourche, 1; and Plaquemines, 1.

April of this year. Twenty-five wells were tested during the day, the smallest decline being shown by Barnsdall Oil Company's Mariposa 1, NWc 26-12n-3w, which dropped from 6251 barrels to 6215 barrels. British American Oil Producing Company's Gast Heights 1, 26-12n-3w, increased from 5223 barrels to 8192 barrels, climbing to 56.8 percent. Greatest decrease for the day was had at Carter Oil Company's Fresco 1, SEc 3-11n-3w, which dropped from 284 to 47 barrels, or a decline of 83.5 percent.

September 9, Barnsdall Oil Company's Lyons 1, NEc 22-12n-3w, had an increase from 79 to 440 barrels of oil, and W. S. Key Pryer 1, SEc 34-12n-3w, jumped from a production of 360 barrels to 1097 barrels, an increase of 207.4 percent.

The tenth producer for the capitol tract of land seemed assured as Sunray Oil Company and Phillips Petroleum Company's State 8, southeast of the capitol, struck the first oil while drilling under pressure. The well was flowing around 10 barrels of oil an hour with gas gauged at 25,000,000 cubic feet. This heavy gas pressure may result in the completion of one of the largest wells on the state land.

Anderson-Pritchard Oil Company's Boedecker 1, on the west edge of the field at Twenty-sixth and Stiles avenue, recorded a 24-hour potential of 3355 barrels of oil and 2,200,000 cubic feet of gas from 6495 feet. Between Twenty-third and Thirty-sixth streets, British American Oil Producing Company's Hampton 3 came in to flow 150 barrels of oil an hour and 3,000,000 cubic feet of gas from 6483 feet. The sand was topped at 6391 feet.

Big Fitts Wells

EXTENSION ALSO INCLUDED IN THE WEEK'S ACTIVITY

Tulsa.—The Fitts field of Pontotoc County stepped to the front last week, with outstanding completions. Foremost was E. H. Moore et al's Moody 2, NWc 26-2n-7e, the most northeasterly producer in the field. It found Viola lime at 4195 feet, and first pay sand from 4280 to 4313 feet, and stopped at 4315 feet. Two and one half-inch tubing was set at 4184 feet and the well acidized with 4000 gallons. Operators allowed the oil load to run into the pits during a 30-minute period. In the next hour, the well produced 192.96 barrels of oil, and was closed in to permit reacidizing of the pay. The completion of this well tends to prove up much of the acreage in that section of the field.

Two new oilers were completed in the area by Carter Oil Company. Its Julia Smith 7, SW NE NE 31-2n-7e, flowed 1554 barrels of oil in three hours and 40 minutes through casing. Production was from Dense lime at 4350 feet, which was topped at 4230 feet. Two and one half-inch tubing was set at 4087 feet, so potential could be taken later. The same company's Julia Smith 8, NW NE NE 31-2n-7e, a Wilcox sand producer, was given a potential of 4269 barrels of oil.

Mid-Continent Petroleum Corporation's McKoy 3, SWc 20-2n-7e, was a new producer, flowing 96 barrels of oil in six hours. It was given a 24-hour potential of 288 barrels of oil and had an estimated 2,000,000 cubic feet of gas. Bottom hole pressure was 760 pounds.

Aiken Oil Company's Daniels 1, SW NE SW 21-2n-7e, continued production after plugging back to 3850 feet and running 2½-inch tubing to 3662 feet. The well flowed 190 barrels of oil the first hour, and 198 barrels the second hour through tubing with 3,000,000 cubic feet of gas. It is to be completed later.

E. H. Moore et al's Norris 1, NW NE NE 35-2n-7e, an old well previously drilled to 4403 feet, was deepened to 4427 feet where it pumped 52 barrels of oil in six hours with 20 percent water.

In the Stout area of Seminole County, Amerada Petroleum Corporation and Stanolind Oil & Gas Company's Pyle 1, NWc SE 3-10n-5e, flowed 704 barrels of oil in 24 hours from 4437 and 4440 feet in the Hunton lime. September 10 the well flowed 144 barrels of oil in 24 hours through one quarter-inch choke from 4438 feet. The well, which had its first production September 1, has been given a monthly allowable of 3000 barrels of oil.

Tom Phillips et al's Jones 1, SE NW SW 26-11n-6e, has apparently defined the north edge of production in the Keokuk pool of Seminole County, swabbing 144 barrels of oil and 150 barrels of water from the Hunton lime. South of this well, Pioneer Drilling Company's Twinan 1, SW NE NE 35-11n-6e, after drilling plugs, found 500 feet of oil and 600 feet of water in the hole, coming from 4150 feet in the Hunton lime.

Wood Oil Company's Ashby 2, SE NE NW 22-7n-5e, west of Little River in Seminole County, had the bridge out and cleaned out to the bottom. At 3066 feet in the Earlsboro sand September 4, the well had 10 feet of cavings in the hole and had bailed all the water out. It showed for 400 feet of oil in the hole, and operators may plug back or shoot.

W. A. Delaney and Choctaw Oil & Gas Company's Sawyer 1, SW SE NW 7-1n-8e, east of the Jesse pool but in Coal County, was pushing ahead rapidly. Pipe has been set at 60 feet, and operators plan a test of the "grass roots" sand at 70 feet. If productive, the well will be the first commercial producer for Coal County. The well will be drilled ahead before testing the shallow pay. It was reported as drilling ahead at 2250 feet in the Wapanucka lime.

Carter Oil Company and Ramsey Petroleum Company's Warne 1, NEc NW 31-3n-9e, was drilling below 1025 feet. Shell Petroleum Corporation's Hill 4-A, CNW NW 30-3n-10e, stopped at 560 feet and set 532 feet of 16-inch casing.

In the Oswalt area of Love County, Sinclair Prairie Oil Company's Stockton 1, SEc SW 26-6s-2w, swabbed 192 barrels of oil through 2½-inch tubing from the Simpson sand at 8476 to 8544 feet, following acidization and shooting. Swabbing will be continued.

The northeast extension of the Olympic pool was widened September 9 as Ark Royalty Company's No. 2, SW NW NE 19-10n-9e, cored a sand from 1723 to 1790 feet, and found the core saturated. It is a southwest diagonal offset to the discovery well in the area.

J. A. Chapman et al's Fee 1, SWc 30-10n-9e, which came in to flow 10 barrels of oil an hour, flowed 85 barrels of oil per hour during the last 12 hours with 6,000,000 cubic feet of gas.

On the east side of the area, Manahan Oil Company's Schultz 2, NW SE NW 31-10n-9e, found the sand at 1741 feet to 1763 feet and had 200 feet of oil in the hole. It will be shot.

Fred B. Krueger et al's Vernon 3, CEL SW SW 16-17n-15e, in the Gable-George area of Wagoner County, stopped at 1935 feet after showing some oil. It was acidized and responded with an initial flow of 14 barrels of oil an hour. The Vernon 2, on the same tract, made 150 barrels of oil initial.

Amerada Petroleum Corporation's McGerth 1, NWc SE 31-9n-9e, south of the Gilcrease pool of Hughes County, topped the Hunton lime at 4063 feet and at 4082 feet, was acidized with 1000 gallons and swabbed and flowed 143 barrels of oil in 24 hours.

W. C. McBride et al's producer, west of Depew, in Creek County, located in SWc NE 3-15n-7e, was completed for 100 barrels of oil in the Wilcox sand following a 60-quart shot at 4050 feet. This is the last of four offset wells drilled in that section resulting in two wells to the north being productive, the two wells to the south being dry.

In the Heyburn area of Creek County, Louis Abraham et al's Holeman 1, SEc NE 24-17n-9e, was making 2,000,000 cubic feet of gas and 50 barrels of oil from a total depth of 2315 feet in the Bartlesville sand. A 100-quart shot caused some delay in the completion of the well.

SOUTH AREA QUIET

Ardmore.—Although drilling activity went ahead smoothly, progress was slow in South Oklahoma during the week.

Sad news from Tillman County was that Gulf Oil Corporation's Wearmouth 1, SE NW SE 31-1n-18w, west of Frederick, was to be abandoned. Three unsuccessful attempts were made to plug back from 5127 to 4537 feet and perforate the pipe so as to test three showings found when the well was drilled. Water pressure from the bottom of the hole made plugging back an impossibility.

In the Fox field of Carter County, Carter Oil Company's Ruth Williams 1, SW NE SW 27-2s-3w, the discovery well of the field, had its allowable boosted from 100 barrels of oil daily to 500 barrels, by order of the corporation commission. Total depth is 8115 feet, the deepest pay level found in Oklahoma. Opened September 2, the well flowed 503 barrels of oil in 4½ hours. Pinched to 17 barrels per hour through ¾-inch choke, raised the gravity of the oil to 63.6, and at the end of three hours, bottom hole pressure was still holding up at 2670

pounds, but a short time later, the well froze.

C. P. Williams et al's Brady 2, SE NE SW 19-1s-2w, in Carter County, flowed 180 barrels of oil in 24 hours from 24 feet of solid sand, penetrated at 1452 feet. The same operators have skidded the derrick to a location for Brady 3, NW SE NW 19-1s-2w.

In Beckham County, Carter Oil Company's Davidson 1, CNW SW 2-9n-25w, one of the deepest tests in southwestern Oklahoma, was swabbed after plugging back to 3643 feet, but produced mostly water at the rate of 50 barrels per hour with about two barrels of oil. The well was swabbed 1400 feet off bottom. It later had 1500 feet of fluid in the hole, and operators swabbed 650 barrels of water and 17 barrels of oil.

Two small completions were reported for the Loco area of Stephens County. Raizen Brothers' Prince 3, SE SW SE 10-3s-5w, was completed for 50 barrels of oil (pumped), at a total depth of 1440 feet. Derrick was skidded over for Prince 4, SW SE SE 10-3s-5w. The Texas Company's Bohanan 2, SE NE NW 15-3s-15w, was completed for 50 barrels of oil and the derrick skidded to location for Bohanan 3, NWc 15-3s-5w.

BITUMINOUS ROADS

Tulsa.—Engineers, scientists, chemists, oil technologists and motorists from western and mid-western states will assemble in Glacier National Park, Montana, September 8, 9 and 10 to conduct a research laboratory on bituminous-type highways and to reveal the late developments in modern highway construction.

The conference is designed to coordinate the knowledge of the scientists with the practical experience and skill of the engineers and adapt both to the highway needs of the motorists. The vast experience of recent years and the more skillful design of the asphaltic and bituminous highway surfaces, the engineers point out, will eliminate the necessity for expensive type highways and permit expansion of state highway systems both on main highways and on the farm-to-market roads.

The Montana Conference and the National Road Oil and Asphalt Congress to be held in Tulsa, October 8 and 9 will produce valuable information for use in connection with surveys being conducted in many states by the Bureau of Public Roads. The survey, national in its scope, seeks to determine the mileage, type and condition of all roads in the various states and to plan their extension and improvements.

The Bureau of Public Roads has stated that in the past, attention has been devoted chiefly to the improvement of main highways whereas, in the future more attention must be given to the secondary and feeder systems. Expansion of those neglected systems will not only relieve the farmer of his mud and dust menace but will reduce the hazardous congestion on main and arterial highways.

52 STARTS

Tulsa.—Scouts reported 52 starts in Oklahoma, an increase of 5 over the previous week. With cooler weather and rain, an even greater increase in activity is expected. Okfuskee and Seminole counties led the state with 7 locations; Pontotoc County came second with 6; Carter, Creek and Pottawatomie counties each made 5 reports; Garvin and Osage 3 each; and Hughes, Kiowa and Oklahoma counties 2 each. Blaine, Coal, Harmon, Lincoln and Murray counties made 1 report each.

Fifty-seven wells were completed in Oklahoma during the week, of which 39 had initial production of 34,478 barrels. Three gas wells were completed for a combined open flow of 25,750,000 cubic feet. Four locations were abandoned and 11 were dry holes.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO COUNTY—		
Lee et al, Horton 1, ne ne ne 9-6n-13w	*	2201
CARTER COUNTY—		
Magnolia, Heffner 5, sw nw ne 27-2s-3w (otd 2355)	¶3	2683
Ideal Oil, Scroggins 11, se se se 32-3s-3w	15	1140
CREEK COUNTY—		
J. M. Scott, Riverbed 2, nw sw se 8-18n-7e	30	2504
Anthony, Bruner 2, cnl ne ne 4-16n-12e	800	2266
Sinclair Prairie, Gilcrease 10, cs½ sw se 33-17n-12e	960	2241
GARVIN COUNTY—		
Carter Oil, Wood 1, nw sw se 5-4n-3e	144	3018
Winkler & McQueen, Davis 1, se se se 32-1n-3w	355	2678
HUGHES COUNTY—		
Strang & Felmee, Narcome 1-A, sw nw nw 14-7n-8e (otd 1300)	*	3005
Phillips Oil, McCaslin 4, sw ne ne 11-9n-8e	25	1803
JACKSON COUNTY—		
Gulf Oil, S. J. Ellis 3, ne sw ne 6-1s-19w	928	2612
JEFFERSON COUNTY—		
Circle Oil, Seay 39, ne sw se 3-7s-5w	15	1280
KIOWA COUNTY—		
Burns & Moore, Blubaugh 1, ne ne se 2-6n-17w	25	4700
Webster 2, ne se ne 2-6n-17w	10	445
OKFUSKEE COUNTY—		
Blackwell, Dolton 4, se ne ne 36-10n-8e	¶5 260	1762
J. J. Deaner, Deaner 1, nw sw ne 19-10n-9e	200	1828
Snyder, Wind 8, cnl sw ne 35-11n-9e	10	1472
W. J. Smith, Likowski 1-A, ne nw ne 26-11n-11e	25	2041
Vincent, Randell 1, ne sw ne 13-13n-10e	¶10	2635
J. E. Welch, Carter 1, nw ne ne 24-13n-10e	*	2710
OKLAHOMA COUNTY—		
Phillips, Gast 2, sw sw nw 26-12n-3w	*	6620
OKMULGEE COUNTY—		
Cusack Oil, Johnson 3-A, sw nw sw 29-12n-12e	¶1 20	1913
Steighner et al, Colbert 2, se ne ne 14-14n-14e	10	1090
Cusack Oil, Scott 1, se sw se 28-15n-11e	*	2892
Reliance Oil, Cowan 7, csl ne sw 26-16n-11e	30	1881
OSAGE COUNTY—		
Pure Oil, 1-61, cwl ne ne 25-22n-7e	116	2909
Link Oil, 1, sw sw ne 29-23n-12e	*	1914
Carter et al, DeNoya 5, ne sw sw 10-25n-6e	1500	2868
The Texas Co., Kenny 8, ne ne sw 9-24n-7e	77	2665
PAYNE COUNTY—		
Carney & Levy, Brenman 1, nw nw se 6-17n-6e	*	3848
PONTOTOC COUNTY—		
Continental, House 2, ne nw se 12-1n-7e	¶1½ 3660	4715
Fleetborn, Morin 2-A, sw se se 20-2n-7e	¶2¼ 3216	4300
Stahl, Dennis 4, se sw sw 21-2n-7e	¶2¼ 3443	4350
Moore, Moody 4, nw se se 22-2n-7e (pb 4460)	¶2 1788	4597
Magnolia, Burris 11, ne sw nw 27-2n-7e	¶2½ 4224	3652
Metropolitan Life 18, ne ne sw 27-2n-7e	¶3¼ 8400	3536
Moore, Schauers 1-B, nw sw nw 29-2n-7e	2520	3655
Boetker, Starrett 4, se se ne 23-4n-7e	30	1720
Mid-Tex, Whitney 1, sw se se 30-5n-4e (pb 1200)	*	2007
Great Lakes Oil, Gilmore 5, cel sw ne 29-5n-8e	80	897
POTTAWATOMIE COUNTY—		
Huckleberry, Gray 3, sw sw sw 26-6n-4e (otd 2944) (pb 2945)	30	3595
J. W. Krumme, Brandenburg 1-A, se ne ne 3-7n-4e (otd 4124)	60	4127
Magnolia, Nona 1, se se nw 11-7n-4e (otd 3845)	30	4095
Pure Oil, Latimer 1, ne nw nw 21-7n-4e (pb 4116)	1	4125
SEMINOLE COUNTY—		
Pure Oil, Strothers "D" 6, ne se sw 11-8n-6e	633	4195
Wood Oil, Mary 1, sw ne se 8-9n-7e	¶½ 20	3638
Kingwood, Miracle 2, nw sw ne 13-9n-7e	*	2320
Deep Rock et al, Hagler 5, se se ne 19-9n-7e	200	3496
Kemrow & Tom Phillips, Noble 1, nw nw sw 20-9n-7e	264	3513
Rudco Oil, Butner 1-A, ne ne sw 15-9n-8e	*	1656
Oklahoma Oil Corp., Roberts 1, nw sw nw 32-9n-8e	¶12¾	1882
Carter Oil, Ferguson 3, cw½ sw nw 11-10n-6e	324	4198
TULSA COUNTY—		
Johnson Oil Ref., Anthis 3, nw se se 30-19n-10e	*	2363

*Failures; †Junked; ¶Million cu. ft. gas.

START GAS LINE

Two new Louisiana fields get outlet

Shreveport.—Arkansas Pipe Line Company is buying right-of-way and has awarded contract to J. G. O'Neal for construction of a gas line to the new gas fields in Bienville and Lincoln Parishes, which will connect with the company's Monroe-Shreveport trunk line. The company is taking up pipe in South Arkansas to be used in the new line.

Arkansas-Louisiana Gas Company owns the gas rights on two large blocks in these two parishes on which Lide & Greer have completed 3 gas wells, 2 in Lincoln Parish, in Section 10-17n-4w, and 1 in Bienville Parish in Section 12-16n-5w. Lide & Greer own the oil rights on these holdings.

Lide & Greer are now unitizing acreage on these two blocks for immediate drilling of 6 new tests, one of those in Bienville to go to possibly 9000 feet. These new gas fields have been without pipe line outlets.

Lide & Greer's Simmie Gardner 1, Section 10-17n-4w, recently completed below 6500 feet as a wet gasser in the Travis Peak, was opened last week and allowed to flow for a time to see if it would make oil but it did not make anything other than distillate such as it showed when the well was first completed.

Pawnee Oil Field

WILDCAT TEST EXPECTED TO BE A GOOD PRODUCER

WEEKLY STAFF REPORT

Wichita. — Pawnee County claimed the attention of Kansas oil men during the past week as Simpson-Noble's Gates 1, SWc 13-20s-16w, northwest of Pawnee Rock, blew in late in the week, spraying oil more than 60 feet up the derrick before it could be brought under control. Field men in the area estimate the well to be good for a production of between 5,000,000 and 8,000,000 cubic feet of gas and about 100 barrels of oil daily. It later established a potential of 187 barrels of oil in 24 hours after a test run had been made. A late gas gauge was placed at 2,000,000 cubic feet for a period of 22 hours. There is much speculation as to what the well will do when drilled in, and operators were still cleaning out 22 feet off the bottom with the hole at 3841 feet. It is to be tested again at an early date.

Another good producer was found in Russell County with Coralena Oil Company's Trapp 5, SE SW SE 30-15s-13w, topping Siliceous lime at 3252 feet, and after being drilled to 3256 feet was acidized with 4000 gallons. The well received a potential of 2608 barrels of oil in 24 hours, making it the largest producer in Russel County today.

W. I. Southern, Incorporated's Shaffer 5, SWc NE 31-15s-13w, in the same area, had lime pay from 3252 to 3254 feet and after being acidized with 4000 gallons, established a potential of 2183 barrels of oil daily. The same operator's Sellens Heirs 4, SW NW SW 29-15s-13w, had the Siliceous lime from 3304 to 3305 feet, and filled 1600 feet with oil in one hour. Crew was setting liner to acidize. Southern's Boomhower 1, NW SW NW 32-15s-13w, had the Siliceous lime from 3290 to 3294 feet, and began a potential test after acidizing with 4000 gallons. During the first six hours of the potential test, the well flowed 576 barrels of oil.

Skelly Oil Company's Boxberger 1, NWc NE 33-13s-14w, in the Russell pool, stopped at 3290 feet in the Siliceous lime and on a potential test, made 885 barrels of oil in 20 hours. At the close of the test, the well was flowing at the rate of 49 barrels of oil per hour.

In the Harbiger sector of Russell County, Skelly Oil Company's Erhlich 2, SE SW NE 25-14s-15w, made 847 barrels of oil during the first 17 hours of a potential test. Production was being had from a total depth of 3162 feet in the Siliceous lime.

Sinclair Prairie Oil Company's Matlock 4, SEc SW 3-24s-4w, in the south Burrton area of Reno County, made 1534 barrels of oil after being acidized in the chat. The new producer had the chat at 3261 feet, and set eight-inch casing at 3271 feet. First gas was encountered at 3287 feet, and after drilling to 3340 feet, the well made 15,000,000 cubic feet of gas. Stopping at 3361 feet, the well was tested and made 7,500,000 cubic feet of gas and 897 barrels of oil natural. Operators are planning a new chat well and a Hunton lime test as offsets to the new producer.

Slick, Pryor & Lockhart's Myers 1, SEc NE 13-17s-11w, in the Bloomer pool of Barton County, has set casing to drill in at 3311½ feet. Big pipe was being pulled, tanks erected and connections made. In the first four hours opened, the well filled 1600 feet with oil. Indications are the well may be as big as the original producer in the sector, The Texas Company's Bloomer 2.

The Texas Company's Bloomer 3, SE NW NE 36-17s-11w, made a test run of 2569 barrels of oil in 24 hours, which may be allowed to stand as the potential test. Bloomer 3 is located 600 feet east of the same company's Bloomer 2, NE NW NE 36-17s-11w, which had a slightly higher potential, producing 2598 barrels of oil in a test made a week ago.

Extension of the Bloomer pool was made during the week as Yernell et al's Gemeinhardt 1, NEc SW 36-17s-11w, drilled into the Siliceous lime at 3669 feet, and after going ahead to 3674 feet, had a hole full of oil in two hours. Gemeinhardt 1 extends production two locations to the south.

Shell Petroleum Corporation's Michaelis 1, NE SE NE 31-15s-13w, in the Trapp pool of Russell County, established a potential of 529 barrels of oil in 11 hours from a total depth of 3319 feet. In the same area, Derby Oil Company's Trapp 1, NWc 31-15s-13w, had a potential of 563 barrels of oil in 24 hours.

West of Bushton, in Rice County, Slick, Pryor & Lockhart's Stump 2, NEc NW SW 4-18s-10w, was shut down after establishing a potential of 103 barrels of oil in 24 hours.

Apparent definition of the eastern limits of the Turon pool of Reno County was the result of the drilling of Shell Petroleum Corporation's Mauck 1, CWL NE 14-26s-9w, which flowed water at the rate of 900 barrels when opened for 16 hours from between 4122 and 4137 feet. Mauck 1 is an east offset to the same interest's Whipple 2, CEL NW 14-26s-9w, which was completed as a good producer.

Continental Oil Company's Wenger 1, NWc 21-21s-1w, a new Hunton lime well at the north end of the Graber pool of McPherson County, was finishing a 24-hour potential test. During the first 21 hours, the well averaged 69 barrels of oil per hour producing a total of 1451 barrels. It bottomed at 3340 feet in the Hunton, which was topped at 3303 feet. Wenger 1 is expected to be the largest well in the north end of the pool, and is an east

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARBER COUNTY—		
Barbara Oil, Alexander 2, cnw sw 13-33s-13w	¶2	4503
BARTON COUNTY—		
The Texas Co., Bloomer 3, sw sw ne 36-17s-11w	2521	3273
Brouk et al, Keil 1, se se ne 11-16s-15w	*	3438
Skelly Oil, Bloomer 1, ne se ne 36-17s-11w	2297	3270
Davis et al, Steckel 4, nw se se 1-20s-11w	2269	3276
Buchanon et al, Langfeldt 2, se ne sw 14-20s-11w	1540	3294
BUTLER COUNTY—		
Vickers Pet., McCramer "B" 3, cw½ se sw 26-24s-3e	220	2708
ELLIS COUNTY—		
Margay Oil, Bemis "B" 2, nw sw sw 15-11s-17w	1671	3423
GREENWOOD COUNTY—		
Shull Drlg., Johnson 6, se nw nw 16-24s-12e	*	1820
HARVEY COUNTY—		
Marathon Oil, Hagge 2, sw sw sw 13-22s-2w	¶25	2960
Palmer et al, Dyck 1, cse se 2-23s-2w	¶2½ 911	3000
McPHERSON COUNTY—		
Progressive Oil, Lacquement 2, cs½ ne 32-19s-11w	*	3040
Hutchinson O. & G., Eaton 8, se se ne 26-19s-2w	71	2972
PAWNEE COUNTY—		
Kessler & Their et al, Gustafson 1, sw sw sw 27-20s-16w	*	4140
RENO COUNTY—		
Shell Pet., Mardis 2, cnw nw 10-24s-4w	158	3391
Derby Oil, Mount 2, nw ne ne 20-24s-4w	456	3391
S. J. Houston, Mount 3, nw sw ne 20-24s-4w	1671	3383
Graham et al, Miller 1, ne ne se 36-25s-10w	*	4362
Magnolia, C. Harris 3, se nw sw 9-26s-4w	1753	4057
Hipple, Railback 1, ne ne ne 9-26s-9w	*	4441
RICE COUNTY—		
Empire, Jansen 4, sw ne nw 3-18s-8w	260	3267
Sinclair Prairie, Williard 1, ne ne sw 6-19s-9w	158	3255
Garden & Sons, Hauschild 2, se sw se 10-21s-7w	10,362	3381
Hauschild 1, nw ne ne 15-21s-7w	¶3 6443	3381
RUSH COUNTY—		
Morgan & Flinn, Koril 1, nw nw sw 23-18s-16w	2229	3539
RUSSELL COUNTY—		
Hartman & Blair, Johnston 1, nw nw nw 11-13s-14w	*	3134
Central Pet., Witt 6, nw sw se 3-14s-15w	1858	3295
Darby Pet., Dumler 1-B, nw sw nw 11-14s-15w	1232	3282
STAFFORD COUNTY—		
Atlantic, Bagley 1, nw sw nw 32-22s-11w	1351	3591
SUMNER COUNTY—		
Gulf Oil, Enderud 4, sw sw sw 16-35s-3w	260	4754
The Texas Co., E. L. Reed 1, ne se se 11-31s-1w	*	4150
WOODSON COUNTY—		
Barbara Oil, McClaskey 18, nw se ne 29-23s-14e	8	1741
Young & Harper, Mudge 2, ne sw sw 5-24s-14e	*	1756
O. K. Oil, Kimball 13, sw sw nw 18-24s-14e	*	1703

*Failures; †Junked; ¶Million cu. ft. gas.

offset to Dickey Oil Company's Graber 1, which was recently completed in the Hunton lime for 795 barrels of oil daily. Authorities state the well should be good for 2000 barrels daily if acidized.

Derby Oil Company's Arnold 1, SWc 16-21s-1w, was installing a head to save the gas from the well, intending to use it for drilling of other tests in the area. A test revealed from 10,000,000 to 12,000,000 cubic feet of gas daily from a chat topped at 2916 feet.

There were numerous smaller completions throughout the state. In the Raymond pool of Rice County, Atlantic Oil Producing Company's Scott 1, NE SW SE 20-20s-10w, was given a potential of 791 barrels of oil natural, with 20 percent water. It is to be acidized.

Ryan Consolidated et al's Norton 1, NEc 32-14s-2w, in Saline County, had a good show of free oil from the Viola lime, topped at 3265 feet, and after drilling to 3412 feet, operators were planning to shoot.

Northeast of Wichita, in the Greenwich pool of Sedgwick County, Joe Aylward et al's Stollei 3, SE NE SW 11-26s-2e, produced 416 barrels of oil and some water from the pay sand at 3158 feet.

Slick, Pryor & Lockhart's McKeown 1, NEc SW 18-32s-1w, near Wellington, in Sumner County, at 3762 feet, had 1,500,000 cubic feet and a small show of oil. After drilling from 3771 to 3773 feet, the total depth, operators recovered one and one-half bailers of water per hour.

STUDY DISPOSAL

Wichita.—At a meeting held here September 8 attended by representatives of companies operating in the Ritz-Canton area of McPherson County, Kansas, and in conjunction with the Kansas State Board of Health, various means of disposing of produced salt water were discussed. As no definite or adequate plan was available another meeting has been scheduled for 8 a. m. September 15, at the Allis Hotel, Wichita. In the meantime operators are to study the problem in an effort to arrive at means of eliminating undesirable features of the present situation.

Approximately 250 wells are located within the proven area of the field, with most major Mid-Continent operators being represented. Production, mainly from Viola lime, is accompanied by a high percent of salt water.

30 KANSAS STARTS

Kansas scouts made reports on 30 new locations, with Barton County accounting for seven. Russel County reported 5 new starts, Reno and Rice Counties 4 each, and Ellsworth County, 2. Butler, Ellis, Greenwood, Harvey, McPherson, Rush, Stafford and Woodson Counties made 1 report each.

Kansas operators completed 34 wells during the week, 22 being for oil with a total initial of 39,699 barrels. Two gas wells were completed for a total of 27,000,000 cubic feet.

Lea County Lagging

COMPLETIONS OUTNUMBER NEW TESTS STARTING

WEEKLY STAFF REPORT

Hobbs, N. M.—Lea County operators are lagging in taking care of producing offsets. Completions in the county have outnumbered locations for three weeks, and during this period a number of companies have elected to postpone matching of necessary offsets. In some instances operating units have exhausted their development appropriation for the current quarter and will wait until October to resume normal operations. Progressive cuts given the proration allowable per well has extended the payout period, but operators have no alternative in equalizing drainage created by adjoining property owners, except in a few isolated instances involving small wells.

Ten flowing producers and a wildcat failure appear on the current completion report for the county. During the past week there were 8 new locations, including 4 for the sandy-lime belt in the east portion of the county, and 3 necessary offsets in the Monument field. In the South Jal area, Continental Oil Company and The California Company have rigged up to drill J. S. Eaves 1-A-30, C NE NE 30-26s-37e, a mile east by south of their McCallister 3-A-24, C SE SE 24-26s-36e, recently completed flowing 163 barrels of 29.5 gravity oil natural in 12 hours through 5/16-inch tubing choke from lime at 3215-3245 feet, with an elevation of 2941 feet.

Plugging orders were issued the past week for Oil Well Drilling Company and The Texas Company's L. L. Clardy 1, C SE SE 13-16s-36e, 3 miles southeast of Lovington, after drilling to 5065 feet. Magnolia Petroleum Company's John Scharbauer-Eidson 1, C NW NE 29-16s-35e, 8 miles southwest of Lovington, was drilling in hard lime at 4510 feet.

Interest in the Monument field centers upon intermediate tests on the south towards the Eunice field. Tide Water Oil Company's Anderson 1, C NW SE 8-20s-37e, gives promise of shortening the gap after logging favorable oil saturation in lime at 3828-3877 feet, with an elevation of 3553 feet, and was in process of completion late last week. This company is starting work on State 1-I, SW SE SW 16-20s-37e, east offset to production between the two fields. Gulf Oil Corporation made location for State-Sunshine 1, C SW SW 30-20s-37e, offsetting production on the north end of the Eunice field. Repollo Oil Company contributed a new test for the southwest portion of the Monument field in starting work on M. J. Byrd 2, SE SW NE 11-20s-36e. Gulf Oil Corporation's Geo. C. Matthews 3, C SE SE 6-20s-37e, an inside location for a normally prolific section of the field, failed to encounter the usual porosity and tested 99 barrels of oil flowing through open tubing for 7 hours from lime at 3891 feet, or 315 feet sub-sea, with gas volume rated at 8,000,000 feet daily. It may be deepened.

The Texas Company has moved in equipment to drill two short-term leases in the sandy-lime belt situated northeast of Jal. This company's Jas. F. Black 1, C SW NE 21-24s-37e, is a northwest diagonal offset to Plains Production Company's J. A. E. Knight-Humble 1, which was reported last week making 15 to 20 barrels of oil per hour from sandy-lime at 3470 feet, with an elevation of 3221 feet. The Texas Company's J. D. Young 1, SE SE SE 5-24s-37e, is a semi-wildcat and about 1⅛ miles southwest of the same company's E. D. Fanning 1, which is installing equipment to pump after shot. Culbertson, Erwin and Stovall's J. R. Stuart-Repollo 2, NW SE SE 10-25s-37e, is east of the partnership's first well, which attracted attention to the East Jal area last March with a natural flow of 250 barrels of 34.7 gravity oil per hour from sandy-lime at 3294 feet, or 189 feet sub-sea. Sun

NEW MEXICO Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LEA COUNTY (Eunice Field)—		
Continental Oil Co., State 3-D-15, c ne ne 15-21s-36e	3000	3875
Conoco-California Co., Lockhart 3-B-14, nw ne ne 14-21s-36e	1500	3871
Gulf Oil Corp., H. C. Collins 2, c ne nw 14-21s-36e	254	3883
State-Arnott-Ramsey 8-C, c sw se 21-21s-36e	372	3880
Humble, J. D. Knox 4, c nw ne 10-21s-36e	1500	3866
Shell Pet. Corp., State 1-F, C lot 14, 6-21s-36e	2500	3860
LEA COUNTY (East Jal Field)—		
Sun Oil Co., B. T. Lanehart 1, c se se 20-25s-37e	63	3362
LEA COUNTY (South Jal Field)—		
Conoco-California Co., McCallister 3-A-24, c se se 24-26s-36e	350	3245
LEA COUNTY (Monument Field)—		
Gulf Oil Corp., G. C. Matthews 3, c se se 6-20s-37e	335	3891
LEA COUNTY (Wildcats)—		
Oil Well Drlg. Co.-The Texas Co., L. L. Clardy 1, c se se 13-16s-36e	*	5065
Repollo Oil Co., J. M. Brownlee 1, ne ne sw 25-21s-36e	65	3867
SAN JUAN COUNTY (Rattlesnake Field)—		
Continental Oil Co., Tribal 12, sw nw ne 2-29n-19w	*	879

*Failures; †Junked; ¶Million cu. ft. gas.

Oil Company's B. T. Lanehart 1, C SE SE 20-25s-37e, has been completed flowing 63 barrels of oil daily after 190-quart nitro shot at 3266-3362 feet, with an elevation of 3042 feet. In the North Eunice sandy-lime belt, J. C. Clower and associates have moved in machine to drill W. H. Turner 1, C SE SE 29-21s-37e, situated on a line between production.

The east portion of the Eunice lime area contributed two large natural-flowing wells the past week. Continental Oil Company and The California Company's A. M. Lockhart 3-B-14, NW NE NE 14-21s-36e, gauged 33½ barrels hourly through ¾-inch tubing choke from lime at 3746-3871 feet, with an elevation of 3581 feet. Gas volume was rated at 784,000 feet daily. Continental Oil Company's State 3-D-15, C NE NE 15-21s-36e, an inside location, flowed 62 barrels per hour through ¾-inch choke from lime at 3875 feet, with gas volume rated at 2,150,000 feet daily.

LEASE AUCTION

Sale scheduled for tracts of university in 3 counties

Austin.—Oil and gas leases on certain tracts of University of Texas lands in Crane, Ector and Andrews Counties will be sold at public auction October 30, according to a communication from Gussie Cottingham Mehl, secretary of the board for the lease of university lands. The announcement of the auction sale was to have been placed in the mail September 9 to go forward to prospective bidders. The board will consider only cash bids.

In Ector County, tracts out of Sections 4, 6 and 9 will be offered. In Crane County, tracts out of Sections 1, 12, 13, 19, 20 and 24 will be offered. Andrews County offerings will consist of tracts out of Sections 1, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 47 and 48.

A general map showing location of these lands and their relation to known oil fields may be obtained from the University Land Office, 805 San Angelo Bank Building, San Angelo, Texas, for $1.25.

SPACING RULE ASKED

Austin.—Separate field rules for the Barlow area in Hidalgo County were urged by operators appearing before the Texas Railroad Commission last week. They asked for a 10-acre spacing, 300 feet of surface casing, and an allowable based on acreage and potential. Evidence was presented to show that the field was separate from Samfordyce, located some 1800 feet away. The operators pointed out that the oil is of a different gravity and is produced from a deeper sand found at 2950 feet.

W. K. WHITEFORD, vice president and general manager of British-American Oil Producing Company, Tulsa, and his family have returned from a vacation spent in Long Beach, California.

Dawson County Well

WILDCAT CAPABLE OF DOING 25 BARRELS PER DAY

NORTH & WEST TEXAS

WEEKLY STAFF REPORT

Midland, Texas.—A production test given Ray Albaugh et al's John Robinson 1, northwestern Dawson County wildcat, on September 10 revealed that the well is capable of producing about 25 barrels daily natural from thin sections of saturated lime at 4915 feet and at 4944-45 feet. The hole is bottomed in hard lime at 4950 feet, or 1865 feet sub-sea. A small amount of white salt water accumulated in the hole appears to be exhausting under bailing and swabbing tests. It is about 35 miles from nearest production in the north portion of the Permian basin.

Albaugh made location for this wildcat in E.L.&R. Section 46, Block M, in October, 1930, and spudded with cable tools the following December 14.

The oil tests about 33 gravity, with a nominal sulphur content.

Dawson County's first bid for oil production is 38 miles northeast of the Means field, Andrews County, nearest field. It is 35 miles east by north of a junked gasser on the Seminole structure, Gaines County, and about equal distance southeast of a flowing wildcat producer on the L. P. Bennett ranch, Yoakum County. Counties adjoining to the north, east and south have not yielded production.

Albaugh, after drilling to 3300 feet in November, 1934, turned the well and 1920 acres over to Harry Adams, Fred Turner et al to deepen. The latter carried the hole to 4862 feet, and withdrew early in 1935 after developing a fishing job. Albaugh resumed control and succeeded in clearing up the fishing job after 90 days, and in deepening to 4915 feet picked up a stringer of oil-saturated lime estimated 6 inches in thickness that showed free oil under acid treatment. It picked up additional oil saturation at 4944-45 feet, while carrying salt water from above the big lime topped at 4567 feet, with an elevation of 3085 feet. In the meantime some financial assistance was gained through sale of 5 80-acre tracts to Stanolind Oil & Gas Company at $10 per acre and a 160-acre lease to Magnolia Petroleum Company at $7.50 per acre. Albaugh recently negotiated the sale of 4500 acres from the original block to Ernest L. Wilson, vice president of Maracaibo Oil Exploration Corporation, Dallas; W. L. Pickens, Thornton Lomax, and Lion Oil Refining Company. The latter's portion included a separate assignment of 900 acres.

Terry County

A geophysical prospect situated 10½ miles to the northwest of the Dawson County producer and on the south line of Terry County will be given a 5500-foot test. G. M. Shelton and R. L. Foree hold lease on 5200 acres in the area, and have turned the block to Maracaibo Oil Exploration Corporation, Thornton Lomax and W. L. Pickens. The latter will have charge of operations. Location has been made on the J. B. Lewright tract, NEc Section 1, Block C-37, PSL Survey. This block is 10 miles north of a geophysical prospect held by Stanolind Oil & Gas Company in the Cedar Lake area, Gaines County, where leases were sold at prices ranging from $10 to $15 per acre early this year on the strength of the geophysical report.

Texas Pacific Coal & Oil Company has moved in rig to drill two locations west of Yoakum County's single producer completed early this year on the L. P. Bennett ranch by Cascade Petroleum Company and Honolulu Oil Corporation with a rated flow of 1000 barrels of 33 gravity oil after shot. The hole was plugged back from sulphur water at 5282 feet to 5264 feet. The former concern donated acreage from its original Bennett block for the discovery test, and its location for Bennett 1 is C NE NW Section 678, Block D, John H. Gibson Survey.

Wildcats Due

Showdown on the ability of a number of wildcats drilling in the north portion of the Permian Basin to produce will materialize shortly. In north central Yoakum County, Lou G. Stogner, Elliott Roosevelt et al's Googins-Roosevelt 1 has given no encouragement for making a well in drilling to the 5300-foot level, with contract calling for a 5500-foot test. In Hockley County, the unitized test of The Texas Company et al on the Bob Slaughter ranch was drilling near the 2800-foot level. Honolulu Oil Corporation and Cascade Petroleum Company's Duggan Bros. 1, Cochran County, was drilling at 4250 feet. In Terry County, Uscan Oil Company and Illinois Oil Company's Brownfield 1 was drilling near the 2300-foot level.

In Gaines County, Humble Oil & Refining Company's Wales Eubank 1, C SW SW Section 6, Block AX, PSL Survey, lost a section of drill pipe in attempting to use formation tester at 6192 feet. The hole was plugged back and 2½-inch tubing lowered to 5090 feet with packer installed at 4769 feet, but swabbing test failed to yield oil or gas. Stanolind Oil & Gas

Company's Dewey Davis 1 was drilling near the 4000-foot level, or about 800 feet above the projected producing zone. Amerada Petroleum Corporation et al are rigging up rotary to drill S. J. Averitt 1-A, located 2½ miles northwest of Seminole, Gaines County, having succeeded in plugging back Averitt 1 from 4910 feet to 3609 feet, thereby excluding sulphur gas production, but succeeded in making a sweet-gas well, rated at 500,000 feet daily.

The Sand Hills field, Crane County, registered the largest producer in the district when Gulf Oil Corporation and Truett B. Cranfill's J. B. Tubb 2, NEc Section 12, Block B-27, PSL Survey, responded to treatment with 5000 gallons of acid solution in lime at 4391 feet with a flow of 1008 barrels of 35 gravity oil in 3 hours. Gas volume was rated at 5,689,000 feet daily. The well flowed 415 barrels oil the first hour, carrying 375 pounds back pressure on casing; 325 barrels the second hour and on the last hour produced 268 barrels against 175 pounds back pressure. Additional tankage is being erected to make a 24-hour potential gauge. The partnership has skidded rig one location to the north to drill Tubb 3. Humble Oil & Refining Company's J. B. Tubb 3, SWc Section 10 and a diagonal northeast offset to the big producer, flowed 543 barrels of oil in 12 hours when tested at 4373 feet, and will be deepened before treating the porous lime formation with acid. The latter has made location for Tubb 4, SWc NW Section 10, an east offset to Loffland Bros. et al's Tubb-Gulf 2, which is drilling below 4150 feet. American Liberty Oil Company and Cranfill's Tubb 2, C NE SW Section 11, offsetting production, was drilling near the 3600-foot level.

Gulf Oil Corporation's E. W. Estes 2, southwest offset to the company's discovery well of the lower sand zone in the north portion of the Grand Falls district, Ward County, flowed 13 barrels per hour on preliminary gauge at 2926 feet. The hole was deepened to 2928 feet, logging hard lime. Estes 1, located in east corner of H.&T.C. Section 38, Block 34, was listed last week as having gauged 535 barrels of 35 gravity oil initial from sand at 2930-2933 feet, with an elevation of 2613 feet, after passing up a small well in regular sandy-lime pay for the area near the 2500-foot level. Humble Oil & Refining Company's University 3-F, SEc NE NE Section 3, Block 16, offsetting production on the southwest edge of the Gulf-O'Brien field, gauged 710 barrels of oil in 10 hours after 390-quart nitro shot in sand series at 2488-2732 feet.

Prince Brothers et al's C. L. Monroe 1, SWc E¼ H.&T.C. Section 52, Block 34, located 2 miles west by north of nearest production in the Grand Falls district, and almost on a line between two dry holes, is contracted to drill to 3000 feet. The California Company farmed out this 160-acre lease, and contributed $3000 cash towards the drilling of a test. Interest in the area is based on supposition that a narrow reef-type structure, similar to the Hendrick field, may be found on the west flank of the sandy-lime production trend across Winkler County.

Cooke County

BRUHLMEYER GETS TWO ADDITIONAL LINE OUTLETS

Wichita Falls.—Two additional crude oil gathering systems are due to begin operating in the Bruhlmeyer field, Cooke County, which occupies top position on drilling activity in North Texas. Tom C. Patton, Inc., a producer in the field, is building a 2-inch line to tank car loading facilities on the Katy Railroad, and will sell crude on contract to a refinery in Canada. Tydal Refining Company is also building a 2-mile, 4-inch line that will link the field with its 2000-barrel capacity crude skimming plant at Gainesville.

Allowable production of the Bruhlmeyer field was cut from 92 barrels daily per well to 54 barrels daily effective September 1. The field added 6 large producers the past week, thus boosting the total to 31 since the discovery well was completed last April by Anderson-Kerr Petroleum Company's Bruhlmeyer 1, pumping and flowing 786 barrels of 42.5 gravity oil initial from sand at 2009-2014 feet. The latter concern has a 6-inch line extending to a car rack on the Katy Railroad.

Search for deep production in North Texas Counties abutting the south line of Oklahoma involves more than a half-dozen projects, but are void of any particular interest at present. In Grayson County, Olson Drilling Company, Jas. H. Gardner et al's Southwestern Life Insurance Company 1, situated on the Preston Anticline and the deepest of the group, is to be abandoned as a junked hole at 5890 feet, or 110 feet short of complying with contract depth. A second test will be drilled. In the Gunter area, Grayson County, Port Bolivar Company's Creed Taylor 1, J. Fitzhugh Survey, has been listed as a failure after drilling to 4250 feet. In Cooke County, Sinclair Prairie Oil Company and Sunray Oil Company's A. C. McCall 2, W. H. White Survey, was drilling below 1500 feet, having cemented 12½-inch pipe at 950 feet, or 110 feet below the base of the Trinity series. Two previous attempts to make a 6000-foot test on the McCall tract resulted in a junked hole at 3232 feet and again at 4729 feet.

Semi-wildcat territory in south central Archer County yielded an oil producer last week when L. T. Burns et al's Burt Lowry 1, Ann Scott Survey, A-389, rated as a 75-barrel pumper on preliminary estimate from sand at 1493-1495 feet.

H. A. Melat, Graham et al's S. I. Munger-Gulf 1, located in the north portion of the deep pay zone of the old KMA field, Wichita County, has cemented 7-inch pipe at 3707 feet, and is changing to cable tools to drill into the Strawn sandy-lime pay.

TEXAS PANHANDLE

Wheeler wildcat showing production

Pampa, Texas.—Phillips Petroleum Company's G. W. Porter 1, C NE SW Section 35, Block A-8, H&GN Ry. Survey, Wheeler County wildcat, is showing a small amount of gas from lower section of the granite wash zone at 4802 feet while awaiting production test after cementing 8¼-inch pipe at 4787 feet. This project is seeking production from the Ordovician series on the north flank of the buried granite ridge that forms a trap for oil production near sea level depth in the Texas Panhandle. Porter 1 entered

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
L. T. Burns et al, Mrs. M. E. Durham 1, blk 52	*	1544
W. H. Taylor 1, sec 13	12	1610
L. T. Burns & Long, Turbeville-Tidal 30, blk 152	25	1508
Consolidated Oil Co., Portwood 7-C-D, sec 2411	*	1460
Russell & Wilson, Prideaux 19	15	685
BAYLOR COUNTY—		
Consolidated Oil Co., Portwood 6-S, sec 3139	70	1426
COOKE COUNTY—		
Anderson-Kerr Pet. Co., Millie Hill 1	773	2021
R. S. Rose 2	750	1961
R. S. Rose 3	358	1951
Harrison & Dillard, R. W. Trew 8	65	1230
Keil & Keil, C. M. Martin 1	20	1020
F. W. Merrick, Inc., J. W. Muerer-Shell 2	5	760
G. A. Stelzer 10	4	810
Tom C. Patton et al, E. P. Bell 4	640	1965
Seitz-Comegys & Seitz, Inc., H. E. Ramsey 1	*	1603
Target Drl. Co., E. Van Slyke 1	*	2505
Whitfield et al, F. C. Owen 1	610	1921
R. S. Rose 3	720	1931
DENTON COUNTY—		
C. S. Hoad et al, Travelers Ins. Co.-Atkins 1	*	1710
FOARD COUNTY—		
Humble, Tom Burnett 1	*	4299
GRAYSON COUNTY—		
Olson Drl. Co.-Jas. H. Gardner et al, SW Life Ins. Co. 1	†	5890
Port Bolivar Co., Creed Taylor 1	*	4250
JACK COUNTY—		
C. C. Bloodworth et al, Stockyards Nat'l Bank 2, blk 5	*	420
Buttram Pet. Co., C. K. Cullers 5	*	2096
Gwynn & Overby, B. F. Rankin 3	275	3024
Hamilton Pet. Co., F. H. Rhodes 1, sec 2	264	2387
Mullendore, Berry & Berry, E. W. Chambers 1	380	2965
John G. Pundt et al, R. J. Boyd 1	*	3382
Sterntex Oil Co., Dave Lindsey 1	*	1204
MONTAGUE COUNTY—		
FHE Oil Co., M. Crownover 1	*	1287
Tom Minnich et al, Mrs. F. E. Loy 1	20	907
WICHITA COUNTY—		
Conoco, M. P. Cropper 24	*	521
T. J. and J. L. Waggoner 12-C	119	1318
Hugh Jones et al, E. Rexford 10, sec 2	*	1210
Tom B. Medders et al, J. L. Jackson 1	*	1620
Perkins-Cullum Oil Co., Burnett 17, sec 5	4	1356
Mrs. Jessie L. Pyle et al, Munger 1, blk 30	5	1098
Rathke Oil Co., Murray 14	10	656
YOUNG COUNTY—		
F. E. Butler et al, A. A. Barnhardt 1, sec 238	*	1042
L. G. Hawkins et al, Kirkland 13, sec 2249	*	737
Jack Latson et al, B. F. Barrett 1	10	578
B. F. Barrett 2	15	576
E. R. Perkins et al, W. H. Clarida 2	*	599
West & Honea, W. W. Johnson 1, sec 1495	*	925
Elsie Turner 1, sec 1495	42	861

*Failures; †Junked; ¶Million cu. ft. gas.

the granite wash horizon near the 3000-foot level, with an elevation of 2405 feet, and showed a small amount of 32 gravity oil at 3768-3780 feet, followed by salt water at 3800-3810 feet.

Hartley County recorded a failure the past week and is also in line to receive a new wildcat test. O. V. Beck, Nocona, Texas, et al's Matador Land & Cattle Company 1-A, NWc Section 20, Block 22, C.S.L. Survey, was abandoned at 4600 feet as a junked hole after losing a section of drill pipe last December. A previous test on the same site was junked at 2460 feet in September, 1935. Governor Edmund Johnson of Colorado et al are credited with having acquired lease on a 5000-acre block in Hartley County, and will drill a test in Section 125, Block 44, H&TC Ry. Survey.

C. R. Carter, W. T. Daniels et al have contracted to drill a 3500-foot cable tool test in Briscoe County, located in the south portion of the Panhandle and heretofore explored by only a few tests. The above parties obtained lease on acreage held by the Travelers Insurance Company, and location is due to be made in Section 4, D. & S. E. Survey, Block GC2.

TEXAS STARTS UP

Austin.—The Railroad Commission, during the past week, has approved permits for drilling 230 new wells in Texas, 73 more than were allowed the week before.

The increase was due to the filing of 80 locations from North Texas. This included 26 in Archer County, 44 in Young County, and 10 in Jack County.

The Commission has not yet acted upon the applications which are pending for wells to be drilled in East Texas as exceptions to the spacing rule. This resulted in the approval of only one permit for a well in that field.

Southwest Texas operators filed 46 locations, including 17 in Duval County and 11 in Webb County. In the Gulf Coast, there were 35 permits with 15 in Nueces County.

West Texas received 24 locations with 10 in Winkler County. There were 10 permits from the Panhandle.

East Central Texas reported 24 locations with 10 in Titus and 3 in Franklin County.

TEXAS PANHANDLE
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
E. W. Means et al, E. Cooper 2-B	928	3015
GRAY COUNTY—		
Danciger Oil & Refineries, Inc., E. G. Barrett 10	966	3296
Gulf Oil Corp., E. G. Barrett 4	600	3299
Warner Oil Co., A. Chapman 2-A	¶5½-2755	2652
HARTLEY COUNTY—		
O. V. Beck et al, Matador Land & Cattle Co. 1-A	†	4600
HUTCHINSON COUNTY—		
Gulf-Panhandle Ref. Co., Dial-Perkins 61	391	3103
J. M. Huber Pet. Co., Canadian River 2	¶5.9	2700
Phillips Pet. Co., J. J. Perkins 6	181	2990
Skelly Oil Co.-Cabot Carbon Co., W. E. Herring 1	247	3133
Stanolind, H. B. Terry 3	168	3030
R. C. Ware 9-B	645	3155
Harry Stekoll et al, B. Wisdom 2	249	3142
MOORE COUNTY—		
Anderson-Kerr Pet. Co., A. P. Wilbar-Gulf 3	¶40.4	3113

*Failures; †Junked; ¶Million cu. ft. gas.

Trinity Objective

RODESSA INFLUENCE IS REVEALED IN DRILLING

WEEKLY STAFF REPORT

Tyler, Texas.—Majority of the active and projected wildcat tests in the East Texas Woodbine-sand belt are slated to be carried to the Trinity series. The district is void of outstanding Woodbine-sand prospects, and temporarily the companies and operators prefer to support contracted deep tests in buying protection acreage. Activity is scattered throughout the district, extending eastward from the Mexia fault zone and south from the Oklahoma border to southern Anderson County. Interest in the Trinity as a potential source of oil and gas is largely predicated on the success attained at Rodessa, followed by completion of a gasser and distillate well at Cayuga from the same general zone, and then the development of oil from the Paluxy, or upper Trinity at Talco and Sulphur Bluff.

Having failed to attain a successful drill stem test since gas and distillate appeared when tester was used in lower Glen Rose at 7350-7414 feet, Tide Water Oil Company and Seaboard Oil Corporation's J. N. Edens 15, second deep test for the Cayuga field, Anderson County, will cement 7-inch pipe with the hole bottomed in hard black shale and lime at 7570 feet. Casing will be landed below the producing zone indicated by electrical formation surveying instrument, then gun-perforated and tested at intervals up the hole. This method was used in completing the partnership's discovery well of the deep-pay zone at Cayuga.

Tide Water Oil Company and Seaboard Oil Corporation are reported to be negotiating with Stroube & Stroube, Corsicana, for the drilling of a Trinity test on the former's large block of leases near Opelika, Henderson County. Woodbine-sand tests in this area revealed appreciable structural relief, but all proved dry.

In the Camp Hill area, Anderson County, Gulf Oil Corporation's M. J. Ross 1, is preparing to run electrical formation surveying instrument after drilling through the lower Glen Rose member of the Trinity to 8379 feet, with an elevation of 487 feet. Following this procedure a drill-stem test will be attempted.

Navarro County, source of the first commercial oil production for the state, is assured to two additional Trinity tests. Calto Oil Company, headed by E. B. Germany, Dallas, has awarded contract to J. M. Buchanan, Corsicana, to drill a 6000-foot test on the Etta Black 266-acre tract, B. G. Balthorp Survey, 2 miles southwest of Bazette. Calto Oil Company holds lease on about 3100-acres. P. S. Groginski, Fort Worth consulting geologist, has assembled a large block of leases extending west from Corsicana about 5 miles, and is contracted to drill a 4200-foot test to explore the Trinity zone on the S. P. Love tract, 2 miles southwest of the city.

In Rains County, Robert D. Goodrich, Fort Worth, E. DeGolyer, Dallas, and associates have sold approximately 2500 acres from their block to Humble Oil & Refining Company for a substantial cash consideration, and upon approval of titles the latter is to drill a 7500-foot test in the R. Hotchkiss Survey, 4½ miles east of Emory.

E. G. Colton, R. P. Lester et al's Barrow Bros. 1, northeastern Kaufman

WEST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CRANE COUNTY (Gulf-McElroy Field)—		
Gulf Oil Corp., J. T. McElroy 136	¶27.9-1640	2878
ECTOR COUNTY (Judkins Field)—		
Gulf, W. E. Connell 9-B	654	3700
HOWARD COUNTY—		
Conoco & Group 1 Oil Corp., Eason 10	†	2183
M. S. Goldman et al, L. C. Denman 2	240	2815
Herschbach Pet. Corp., J. P. Davis 4-A	516	2856
PECOS COUNTY (Yates Field)—		
Ohio Oil Co., I. G. Yates 15-G	1056	1315
UPTON COUNTY (McCamey Field)—		
Alma Oil Co., M. C. Powell 1	*	2705
Anderson Oil Co. & Rutter, Leroy Lane 1	*	2232
A. R. Eppenauer Drlg. Co., J. F. Lane-Pure 3	889	2068
J. E. Lucas et al, Cordova Union 1-A, sec 21	*	2445
John W. Perry et al, E. Shirk 2	998	2248
G. M. Smith & Cravens, Reese-Conoco 3	1185	2180
WARD COUNTY—		
California Co., A. B. Gordon 32	562	2505
A. B. Gordon 34	¶5-211	2329
W. J. Dobbs Oil Co., A. F. Bray-Gulf 1-B	65	2567
Empire O&R Co., McDonald 5	740	2500
McDonald 7	483	2500
FHE Oil Co., L. Richter 4-C	2212	2575
Sinclair Prairie, F. Carnegie 2-A	253	2340
Tex-Mex Pet. Corp., Smith-Pure 6	127	2472
Stanley A. Thompson, W. D. Johnson-Sun 6-A-A	1980	2542
W. D. Johnson-Sun 9-A	1267	2535
WINKLER COUNTY (Sayre Field)—		
Gulf Oil Corp., Oscar Clapp 4	248	3136
Humble, N. R. Colby 5-A	788	3106
Magnolia, J. B. Walton 30	824	2932
Mid-Continent Pet. Corp., J. B. Walton 5	1012	2960
Sayre Oil Co., L. Daugherty 7	916	2990
Tide Water, J. B. Walton 11	¶4-470	2925
WINKLER COUNTY (Scarborough Field)—		
Richardson Oils, Inc., Scarborough-Cosden 1	727	3000
WINKLER COUNTY (Henderson Field)—		
Sinclair Prairie, Fred Leck 1-A	5000	3090

*Failures; †Junked; ¶Million cu. ft. gas.

County, has not been successful in removing parted drill pipe lost near the 3600-foot level while pulling out. This Trinity test is contracted to drill to 6000 feet, and was 32 feet short of its obligation when the mishap occurred. In the event the junk can not be removed or sidetracked, the contractor has announced that a new test will be drilled.

Proposed new tests for the Paluxy sand zone at Sulphur Bluff, Hopkins County's first oil strike, will not be drilled until sufficient rainfall occurs to replenish the surface water supply in the area. D. S. Hager, W. P. Luse and Russ Petroleum Company's Worsham 2, second producer for the area, has been plugged back 13 feet from its original depth of 4577 feet in order to safeguard against water. The dark brown asphaltic sand found below the Paluxy oil saturated section is the principal source of salt water in the Talco field, and was found by Worsham 2, which began showing a small amount of water while flowing its allowable.

TEXAS LEGISLATURE

May consider petroleum tax for pension fund

Austin.—Governor James V. Allred has called a special session of the Texas Legislature to be held in Austin, to begin on September 28.

The only subject the governor will submit which has been announced, is the question of old age pensions.

The payment of pensions is now $1,200,000 per month, of which the State of Texas pays half. The remainder is supplied from federal funds. The income from liquor taxes has averaged $300,000 per month, so that the legislature will have to provide an additional $300,000.

All the applicants, however, have not yet had their claims approved, and it is probable that at least $100,000 more per month will be required, of which the State will have to raise $50,000.

At the last session of the legislature tax measures raising the rate of tax on natural resources were looked upon with favor by a large majority of the members of both houses. A bill was approved by the House, which would have increased the gross production tax on oil by 25 percent. This bill, however, did not pass the senate. There was no opposition from the oil industry to the increase proposed.

TEXAS JULY OUTPUT

Large increase over June shown by commission

Austin.—The Railroad Commission, Bureau of Oil Accounting, has reported the total July production for Texas as 35,352,640 barrels, 999,165 barrels more than was produced in June.

This was a daily average production of 1,140,408 barrels. The allowable for the period was 1,170,400 barrels per day.

The report shows that storage dropped from 4,026,199 barrels to 4,024,092 barrels, a loss of 2107 barrels. Pipe line runs totaled 34,957,866 barrels. There were 43,623 barrels of oil moved by tank car, 155,800 barrels transported by truck, 36,208 barrels sold for fuel, and 25,398 barrels diverted to miscellaneous uses.

Shelby County Well

DISTILLATE-GAS FLOW SHUT IN FOR TANKAGE

Shreveport.—After a preliminary test of H. A. Stebbinger and associates' Pickering Lumber Company 1, C. E. Henry Survey, Shelby County, Texas, near Joaquin and five miles west of the Louisiana line, the well which recently showed for a gas-distillate producer at 5029 feet in oolitic lime of the Glen Rose below the anhydrite, was shut in by order of the Texas Railroad Commission until an outlet is secured.

The well allowed to flow through separator through a 2-inch flow line was estimated at 5,000,000 cubic feet of gas and about 48 barrels of 52 gravity distillate per day. The distillate was at first white but later began to show coloring.

Gulf Refining Company in 1928 drilled Caraway 1, G. H. Patterson Survey, to 6580 feet or approximately 1600 feet below the anhydrite. This test was 6 miles southeast of Joaquin. In the lower Glen Rose below anhydrite where the Stebbinger well is producing this test showed 5,000,000 feet of gas daily and this soon dwindled and a standard rig was installed and the well for a time pumped 140 barrels of oil daily and then ceased. It was deepened to 6580 feet and abandoned. Lack of permeability in the lime is blamed for this action.

The Stebbinger well has caused a great increase in leasing in Shelby and Panola Counties. West of Joaquin in the Nancy Beatty, J. B. Ferguson and S. H. Oates Surveys, Sun Oil Company has been leasing. In the vicinity of Joaquin Sinclair Prairie Oil Company has a shooting unit and west of Joaquin, Amerada Petroleum Corporation has a shooting crew. Southeast of Shelbyville, Pure Oil Company has a shooting unit.

In southern Harrison County near the Panola line, Sinclair Prairie Oil Company has a shooting crew.

In the southwest Rodessa "trend" Phil-

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Constantin & Co., Ada Rollins 2 (9.4-ac)	960	3699
W. H. Gant, Garvin & Wegener, J. W. Harris 16 (394.58-ac)	240	3592
Humble, C. J. Thompson 21 (116-ac)	3000	3684
Hunt Prod. Co., Bradford 17-D (170.11-ac)	185	3666
Kline & Powers, Tom Lacy 3 (30.36-ac)	*	3727
E. H. Lasseter & J. C. Hale, H. W. Coates 1 (30-ac)	150	3564
Ortiz Oil Co., M. H. Hale 8 (40¼-ac)	4000	3730
Parco Trading Co.-Ed. DeArman & W. R. Skeen, Crook 1 (8.29-ac)	150	3649
Perot Oil Corp., D. Dickerson 3 (39.54-ac)	65	3578
J. B. & Lenora Sneed, J. B. Wilson-State 1	3000	3632
Stanolind, W. O. Alford 14 (99.35-ac)	5800	3767
Sun Oil Co., H. A. Pace 35-B (637.45-ac)	600	3799
Wemack Oil Co., S. E. Arnold 7 (97-ac)	50	3675
KILGORE AREA—		
Arcadia Ref. Co., E. Samples 3 (101.66-ac)	4000	3764
Clover Leaf Oil Co., Sam Carr 2 (5-ac)	7600	3498
Davis & Hart, C. C. Crews 1	*	3754
Humble, Tom Barton 8 (50½-ac)	3000	3717
S. S. Laird 38-A (230-ac)	6500	3711
Rajo Oil Corp., A. McCormic-Shell 15 (109.52-ac)	750	3730
Sinclair Prairie, A. A. King 58-B, Tr. 1 (337.6-ac)	9000	3510
M. Kennedy 13-B (52.44-ac)	750	3594
M. Kennedy 3-D (32½-ac)	600	3650
Stanolind-Tide Water, A. W. Miller 6 (100.53-ac)	125	3597
A. W. Miller 8 (100.53-ac)	600	3599
Stewart Oil Co., M. Holt 9 (103.73-ac)	65	3561
Sun Oil Co.-Seaboard, J. N. Campbell 15 (106.9-ac)	9200	3534
The Texas Co., W. A. Baxter 14 (96-ac)	7000	3648
T. W. M. Oil Co., Sabine River 5, Tr. 1 (70-ac)	3500	3599
LONGVIEW AREA—		
Atlantic O. P. Co., J. M. Moore 67 (447¼-ac)	9600	3535
Satterwhite 10-A (69-ac)	†	3660
Gulf Oil Co., J. C. Judge 78 (518.3-ac)	8500	3516
Hester & Silvey, F. P. Branson 4 (21.11-ac)	750	3586
Humble, M. Killingsworth 15 (99.7-ac)	6500	3684
Thos. D. Humphrey, J. H. Thomas 11 (50-ac)	500	3649
J. H. Thomas 12 (50-ac)	1200	3618
E. P. Pewitt et al, O. J. Phillips 1 (5-ac)	480	3814
Pete H. Pewitt et al, T. J. Kirk 2 (34-ac)	480	3810
Mattie Phillips 4 (63-ac)	600	3736
Shell Pet. Corp., A. N. & V. King 23 (160-ac)	9000	3583
Stanolind-Tide Water, P. C. McGeorge 12 (95.8-ac)	8800	3517
ANDERSON COUNTY (Cayuga Field)—		
Roeser-Pendleton, Inc., L. R. Billett 5-B (918½-ac)	50	4036
Tide Water-Seaboard Oil Corp., J. F. Duncan 1 (78.81-ac)	2000	4054
FRANKLIN COUNTY (Talco Field)—		
Humble, A. P. King-Hughes 13 (1053.36-ac)	600	4324
Lucey Pet. Co. et al, A. W. Crawford 3 (25.23-ac)	1000	4300
HENDERSON COUNTY (Cayuga Field)—		
Hunt Prod. Co., G. B. W. Smith 2 (127-ac)	3500	4103
TITUS COUNTY (Talco Field)—		
Centennial Production Co. A. M. Peairs), T. Savage 1 (4-ac)	26	4335
W. B. Hinton et al, C. M. Carr 1-B (56.38-ac)	190	4323
Humble, A. P. King-Hughes 12 (1053.36-ac)	300	4237
K. & A. Oil Co., Talco Townsite 1, lot 17, blk 16	240	4347
VAN ZANDT COUNTY (Van Field)—		
G. R. C. Oil Co., W. S. Brannon 6 (45-ac)	5	1224
Pure Oil Co., Frank Blackstock 8 (40-ac)	6000	2915
WILDCATS		
RED RIVER COUNTY—		
Annona O&G Co.-Williams & Waggoner, Roberts Bros. 1 (212-ac)	*	1522

*Failures; †Junked; ¶Million cu. ft. gas.

lips Petroleum Company recently purchased 34 acres in the Santos Coy Survey, Marion County, and 27 acres in the W. R. Meyers Survey, Cass County. In Cass County, Shell Petroleum Corporation has a seismic unit working near Avinger and in Marion County, Stanolind Oil & Gas Company has a shooting unit working northeast of Jefferson.

A. C. Glassell and associates were reaming to bottom at 4984 feet last week in Frost Lumber Company 1, Mary S. Potts Survey, Panola County, after a show of oil stains in cores from 4872 to 4910 feet. The test is planned for 6000 feet.

Skelly Oil Company has taken several hundred acres of leases southwest of Carthage around the W. C. T. Frazier, S. Francis and nearby surveys.

In Harrison County, Motex Oil Company has assembled 5000 acres around the E. S. Price, Ralph Reed and adjacent surveys, near Elysian Fields for a proposed 6000-foot test.

Just across the Caddo Parish, Louisiana, line and north of the shallow Waskom gas field in Caddo Parish and Harrison County, Texas, Chester D. Weiss of New York has taken 4000 acres for a 6000-foot test, location for which is W. L. Rudd 1, in north half of a 200-acre tract, William Steele Survey. This is about three miles west of United Gas Public Service Company's Wheeler A-1, Section 16-18n-16w, Caddo Parish, completed as a small gasser recently in the Travis Peak at 5911 feet.

In Shelby County, Texas, H. M. Smith of Houston, has assembled a block of several thousand acres in the southern part of the county around the Nathan Davis Survey, for a contemplated 6000-foot test. Gulf Oil Corporation has leased 1015 acres around the John English Survey. Between Haslam and Timpson, Sun Oil Company is leasing.

Willacy Oil Well

OPENS DEEPEST PRODUCTION IN SOUTH TEXAS AREA

WEEKLY STAFF REPORT

Mission.—Willacy County joined the columns of oil producing counties last week with Shell Petroleum Corporation et al's Yturria Land and Cattle Company 1 flowing both oil and gas from 7662 feet, probably in the Frio. At the same time, it established the deepest production in South Texas, exceeding the former deepest production in Hidalgo County by nearly 150 feet.

The well, located in the southeast corner of Share 64, San Juan de Carritos Grant, just south of La Sal Viejo Lake, is on a probable deep seated salt dome. It encountered sand at 7630-46 feet, drilled to 7662 feet in shale and set 9⅝-inch casing at 7625 feet. The well flowed at the rate of several millions cubic feet of gas per day, spraying a small amount of 58 gravity oil. The flow was through 5/16-inch choke and pressures were 2459 pounds on casing and 2400 pounds on tubing.

The California Company and Shell Petroleum Corporation are jointly interested in the project.

This strike adds more heat to an already hot play through this portion of the Gulf Coast for deep salt dome prospects. Considerable leasing and some wildcatting has been underway in this sector for some time and an even further increase is expected to follow this discovery.

One of the most important drilling wells in the area is Pantana Petroleum Corporation's R. E. Harding 1, 850 feet west of the Quintana deep Engelman test. This well is down 5830 feet and will test showings in the Frio sands encountered in the Quintana well.

Union Sulphur Company's American Rio Grande Land and Irrigation Company 10, 4500 feet northeast of the Mercedes field, Hidalgo County, is coring below 7820 feet and possibly will go much deeper.

On the Alta Mesa dome in Brooks County, California Company plugged back to 2500 feet and has perforated above that level for a series of tests. The well previously made a small oil well at 3025-28½ feet.

SLUMP CONTINUES

Big field giving up lead after five years

Tyler, Texas.—Slump in development work and completions experienced by the East Texas field since mid-August has not run its course. During the past week the field added only 40 completions, including two failures and a junked test, and total active rigs declined to 60. Survey of field activity indicates that a sharp drop in completions will be recorded again next week, with the average reduced to about 4 daily.

Prior to mid-August the field normally supported about 100 active rigs. On the above date union rig builders staged a strike for a $2 hike in their daily wage scale along with demands for a closed shop. Operators refused to compromise the labor matter, and have used the strike as a technical excuse to defer drilling of additional wells demanded by royalty owners.

Nominal volume of drilling will be carried on in the field as long as flowing production is available to new wells. However, it is doubtful if the field will retain its leadership as the most active drilling center, although it has held such a record since the fore part of 1931, or about 5½ years.

Find New Sands

TWO FIELDS IN CORPUS AREA YIELD OIL IN DEEPER ZONES

Corpus Christi.—Two fields in the Corpus Christi district added new oil horizons, while several more had encountered undeveloped sands and were completing. They made the past week one of the most eventful of a most active summer along this trend.

Portilla Drilling Company's P. H. Welder 2, one location north of the discovery well of the Hughes field, Victoria County, was completed flowing 5 barrels of 43 gravity oil per hour through ⅛-inch choke from 4815-20 feet. The new sand definitely is in the Frio and is approximately 540 feet deeper than that sand encountered in the discovery well. Welder 1 was completed several weeks ago as a gasser spraying oil from sand at 4272-79 feet, likely in the Marginulina.

The above wells are just west of the Missouri Pacific Railroad and in the Felipe Dimmitt survey, about 1½ miles southeast of Victoria. There are a number of small tracts to the north and northwest of this new producer, and in the event the field shows signs of extending to the north, it will bring this area into the heart of the play, and possibly a heavy drilling campaign.

Some 20 miles southeast of this well and in the Heyser field of Calhoun County, Humble Oil & Refining Company and Plymouth Oil Company's E. H. Welder 3-A, was flowing into the pits through small choke. The well was showing 1500 pounds casing and 700 pounds tubing pressure and was making considerable oil. It is in the Heterostegina sand at 4868½-76 feet with casing set at 4866 feet. This sand corresponds closely to the Greta sand producing in several fields in the district. It opens a second sand, the other being at 5500 feet in the Frio. About ½ mile northeast of production in this field,

Buchanan and Blanco have abandoned P. H. Welder 1, which drilled to 6010 feet, plugged back and redrilled to 5646 feet.

W. W. Chapman, Trustee's Morgan-Clark 1, in the deep sand area of the Saxet field, Nueces County, failed to find production in the 5800-foot horizon, drilled ahead to 6400 feet and set 7-inch casing at 6340 feet. It wil perforate and test a sand at 6268-86 feet, which developed 375 pounds pressure and a small amount of gasoline on drill stem test. Several wells drilled to this horizon, tested gas and were abandoned.

Frio Sand Defined

The 5800-foot Frio sand in this field rapidly is being defined by edge wells failing to find the sand or showing salt water. Chapman's Morgan-Clark 5 was abandoned at 6401 feet while North Star Oil Company's Humphrey 6 was a failure at 5840 feet. The area continues to hold its drilling pace and a number of rigs are running. The sands at 4000, 4400 and 4800 feet also are receiving an active development.

Clara Driscoll field, several miles to the west, is coming in for a rather hot play with locations being staked along trend for several miles in various directions from the immediate producing area. About 9000 feet northwest of production, W. L. Hind's Sevier 1, bridged over after running wild a few hours at 3220 feet. It was plugged and abandoned and rig skidded several feet for a new start.

Gem Oil Company's J. T. Smith 1, ¾ mile north of the discovery well of the Cloud Bluff field, also Nueces County, is coring at 6405 feet. There are three other active operations in the immediate area.

Across Nueces Bay from the Saxet field, but in San Patricio County, preparations are being made to complete Earl Callaway and Associates' White Point Development Company. The well is in oil sand at 4900-15 feet and is showing for an oil producer to again revive oil development in the White Point gas field. The well has been delayed in completion due to title work, which it is understood is about complete. Trinity Drillers' Mayfield 1, more than two miles to the north of this well, is down 4400 feet and drilling. It is supposed to be checking favorably with the Callaway well.

Jim Wells County

Camp Drilling Company's Jane Schallert 1, 2½ miles west of the Bentonville-King field, in Jim Wells County, is drilling at 3180 feet in sand topped at 3077 feet. It showed considerable gas at 3077-84 feet. It will core the 4000-foot sand, which is producing wet gas in a number of wells in the field. Its objective however, is the 5300-foot oil sand, where several producers have been completed. The well is reported by owners to be checking very closely with the producing area and may tend to widen the field into a major producing structure.

From an engineering standpoint, several wells along this trend are unusually interesting. In the Greta field, Refugio County, National Petroleum Corporation has set a string of 9-inch flush joint casing at 2050 feet in its relief well on the Missouri Pacific right-of-way. The well previously set casing at 200 and 600 feet. When plugs are drilled, it will go ahead to the high-pressure gas sand. Water will be pumped in to kill this sand and its flow into the crater a few feet away. As soon as the sand is deadened by the flow of water, it will be cemented and the hole drilled ahead to next sand, where the plan will be repeated. It is hoped to ultimately kill all sands affecting the crater, then complete the relief well as a producer in the regular 4400-foot horizon.

Near Seadrift in Calhoun County, Hiawatha Oil Company (Benedum and Trees), attempted to run casing to 7112 feet in heaving shale. The 8⅝-inch pipe could not be landed on bottom, so the well is now reported shut down for flush joint pipe. Continental Oil Company's Austin 1, another heaving shale test, several miles to the east, is down 8825 feet and has recemented. It had a little trouble with a string of 6⅛-inch casing set near bottom.

Goliad Strike

WELL SHOWS GOOD ON DRILL STEM TEST AT 4800 FEET

Beeville.—The California Company was preparing to drill plugs late in the week and make a production test of a Yegua sand show encountered in Langrebe 1, wildcat in northern Goliad County. On a drill stem test at 4797-4812 feet, the well recovered 296 feet of 41.5 gravity oil and showed 95 pounds pressure in six minutes. There was a sand section seven feet in thickness, which prompted drilling ahead to 5060 feet, contract depth. It plugged back and set casing about 4850 feet, and will perforate.

The test is 466 feet from the north and east lines of a 100-acre lease in John Hancock survey, eight miles north of Goliad and about eight miles east of the Slick field, nearest production.

Southeast of this well, Felmont Corporation's Mrs. W. O. Maetze 1, 6 miles northeast of Goliad, was testing shows in the Yegua around 5400 feet. The well had drilled to 5660 feet, was abandoned, but taken over by the new operators for a series of tests.

Zeni Oil Corporation continues to encounter trouble in its attempt to complete Lutenbacher 3, wildcat on the LaBahia prospect just south of Goliad. The well whipstocked out of 5-inch casing in sidetracked hole and is preparing to set liner and screen. The first hole drilled to 5639 feet, hole was plugged back and sidetracked to 5599 on the second completion attempt.

Simmons Oil Company's Clara McGriff 5, Louis Romaro Survey, in the Oakville field of Live Oak County, has been completed as a 25,000,000-cubic foot gasser in the Pettus sand. It found sand at 2792-2802 feet and 2804-16 feet. Casing was set on bottom and perforated. This field was formerly only a shallow gas area. The discovery of gas in the Pettus sand may lead to the development of an oil field.

While it has not reached spectacular proportions, wildcatting has shown an appreciable increase in the Pettus district during the past few weeks with a number of new tests to Yegua sands being commenced.

Further development is expected to follow the recent discovery of a new shallow sand in the Mount Lucas field of Live Oak County by the Houston Oil Company. C. L. Cartwright 35, completed several weeks ago jetting 50 barrels of 23.2 gravity oil per day, continues to hold up its output. The well originally drilled to 5532 feet, but plugged back to be completed at 2505-10 feet.

DISTRICT ACTIVE

86 completions listed in South Texas during week

San Antonio.—Several new wildcat discoveries were included in the 86 South Texas completions during the past week. The completion list included 62 oil wells, three gassers and 21 failures. The oil wells had an aggregate initial production of 31,155 barrels per day while the gassers were estimated at 80,000,000 cubic feet.

Duval County led number of completions with 18, of which 15 were oil wells making 5255 barrels per day. Two gassers made 55,000,000 cubic feet of gas per day and one failure was abandoned. Both Nueces and Refugio Counties were ahead of Duval in initial production, although not so many wells were completed. Nueces County with 13 oil wells showed an initial production of 8196 barrels, while Refugio County showed 7813 barrels from 6 producers. Four wells were abandoned in Nueces County and one in Refugio County. The remainder of the South Texas district, exclusive of these three counties, completed 28 oil wells for initial production of 9891 barrels, one gasser for 25,000,000 cubic feet per day and 15 failures.

FAULT AREA QUIET

San Antonio.—Several completions and new locations in the Austin chalk fields near Luling provided the majority of activity for the Balcones Fault zone during the week. While a number of key wildcats are drilling, they have not reached critical depths.

The deep campaign in Burleson, Fayette, Lee and Bastrop County is rather important as the possible development of new deep reserves for this already prolific trend. Except for the Pearsall sector, majority of the Balcones Fault zone production in South Texas is above 3000 feet.

Testing Outposts

NEW TRENDS ARE INDICATED IN MIRANDO DISTRICT

Laredo.—Testing of several outpost wells in the Mirando District continued as the week closed. While the majority have only minor shows, they do indicate trends of new production and possible extensions to present fields.

One of the most important tests being made in Frank J. Gravis et al's Schallert 1-A, on the west flank of the Palangana salt dome, eastern Duval County, is standing full of oil but will not flow. Screen was pulled and perforated liner set and the well was being swabbed, showing a rather large volume of 43.7 gravity crude. Sand was encountered at 2730-46 feet.

Should this well develop into a commercial producer, which is a virtual certainty, it will lead the way to revival of exploration for salt dome production in this immediate area. The Piedras Pintas salt dome, immediately south, had several flurries of activity following discoveries, but production covered an unusually small area and excitement soon subsided. It is possible, however, that this new strike will be the key to an important development.

A great deal of attention is being paid to Frank Gravis' Fee 2, Section 250 about 2 miles from the potential producer, it is down 2520 feet and should pick up the expected pay over the week end.

Shell Petroleum Corporation's J. M. Taylor 1, Section 214, one mile northeast of the Loma Novia field, also Duval County, plugged back from 3125 feet to 2819 feet and is waiting on cement. It will test the Loma Novia sand topped at 2813 feet. Same company had a bad cement job when plugged from 3242 to 2874 feet in J. F. Welder 1-B, 1¼ miles northwest of Loma Vista field. It has recemented to 2870 feet. Pan American Production Company's J. F. Welder 1-H, one mile southwest of the field, is cleaning out bridge to test Loma Novia sand at 2824-63 feet.

SOUTH TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BEE COUNTY—		
R. B. Swiger, C. A. Voss 2A, Samuel May sur (Voss)	150	3996
Weigand Bros., M. M. Bergel 1, E. C. White sur (Voss)	172	4006
BEXAR COUNTY—		
Rentex Oil Co., Yturri 34, Jose de la Garza sur (Yturri-Southton)	*	706
Fred Thorman, Arthur L. Salm 1, 3000 ft wl, 500 ft sl of 331-ac tr, Peter N. Hays sur 3	*	2000
CALDWELL COUNTY—		
Barnett Pet. Corp., M. L. Strawn 1, 1050 ff sel, 500 ft swl of 210-ac tr, Pablo Martinez sur (Lytton Springs)	10	1796
Lincoln Pet. Corp., F. M. Branyon 1, 180 ft nl, 1050 ft wl of 20-ac of 39-ac tr, John R. Miller sur (Branyon)	40	2556
Terminal Oil Prod. Co. et al, A. P. Doyle 1, 250 ft wl, 1500 ft s/cor of 1000-ac tr, Andrew Churchhill sur	*	2008
A. P. Doyle 2, 250 ft wl, 300 ft sl of 100-ac tr, Andrew Churchhill sur	*	2011
CALHOUN COUNTY—		
Al Buchanan and Blanco Oil Co., P. H. Welder 1, 466 ft swl & sel of 120-ac lse, D. L. Palmer sur (Heyser)	*	6010
DUVAL COUNTY—		
Atlantic Prod. Co., J. F. Welder heirs 8-E, sec 102, (Seven Sisters)	190	2436
Bridwell Oil Co., M. C. Hubberd 12-A, sec 71 (Loma Novia)	435	2766
Cox & Hamon, W. R. Peters 1, sec 322, (Lopez)	600	2163
Duval Oil Corp., Bishop Cattle Co. 24, sec 57 (Loma Novia)	100	2588
Tom Graham, Sarah Sutherland 1, 2310 ft nl, 990 ft wl, 178-ac tr, sur 188, perf 2342-47½ (Peters)	¶10	3309
Harvey & Henderson, E. H. Drummond 1, (Seven Sisters) sec 308	*	2519
Humble, T. D. Smith 25, sec 382 (Seven Sisters)	865	2469
J. F. Welder heirs, 12-C, sur 554 (Loma Novia)	230	2709
L & PT Wright 8, sur 118, (Seven Sisters)	1040	2505
Magnolia, DCRC 1, sec 99, (Piedra Lumbre)	75	1965
Hahl-Burch 5, sec 43 (Gov't Wells)	¶45	2380
J. B. Peal 7, sec 383, (Lopez)	245	2163
J. B. Peal 10, sec 383, (Lopez)	635	2158
Reynosa Oil Co., Wm. Hubberd 6, sec 75 (Loma Novia)	245	2575
Rosan Oil Co., M. C. Hubberd 5-A, sec 71 (Loma Novia)	320	2807
Shell Pet. Corp., V. Mendoza 6, sec 68, (Loma Novia)	135	2730
The Texas Co., Bishop Cattle Co. 16, sec 57 (Loma Novia)	90	2580
D. Ruiz 3-B, sec 41, (Loma Novia)	50	2747
GOLIAD COUNTY—		
Diamond Half Oil Co., E. G. Gillette 4-C, J. Gomez sur, (N. Pettus)	*	....
Magnolia, E. G. Gillette 4, J. Gomez sur, (North Pettus)	48	3684
GUADALUPE COUNTY—		
Ira L. Armstrong, F. H. Fieke 1, sec 19, 1500 ft nl & wl of 304-ac tr in B & G Fulcher sur	*	845
Clark & Weinert W.O.K. Anderson 1-A, 6340 ft nl, 1735 ft el of Green DeWitt sur 11	*	2517
HIDALGO COUNTY—		
Gulf States Oil Co., John Engelman 3, 200 ft el, 300 ft sl, lot 3, blk 70, Las Mestinas gr, perf 6688-96 ft (Mestinas)	8	6812
LIVE OAK COUNTY—		
Houston Oil Co., Mrs. C. L. Cartwright 35, (Lucas) comp at 2510 in pb hole	50	5532
Simmons O&G Co., Clara McGriff 5, 4800 ft sw then 50 ft se fr ne/cor of Odocharty sur but in Louis Romaro sur (Oakville)	¶25	2816
McMULLEN COUNTY—		
Comet Oil Co., H. I. Lark 1, E.W.B. Scrugham sur, (Calliham)	20	1028
E. D. Mathis, Wm. Fahler 1, 2000 ft sl, 75 ft el of s 500 ac of Fahler 1009-ac tr, Geo. Pittuck sur	*	818
C. C. Shumway, Shiner Ranch 9, 330 ft nl & wl of ne¼ of sec 51, Shumway subd of Shiner Ranch	*	2014
Travelers Oil Co., Chas. T. Lark 3, E.W.B. Schrugham sur, (Calliham)	23	1033
MEDINA COUNTY—		
G. N. Whitting et al, Hondo Nat'l Farm 1, 364 ft nl 284 ft el, 240 ft wl of 24-ac tr, sec 214	*	1369
NUECES COUNTY—		
Mills Bennett, Wm. Kassner et al 1, sec 409, (Saxet) sd/tr 4100	1500	5030
R. B. Bryant, Fred Frank 1, sur 416, (Saxet)	360	5832
Fred Franke 2, sur 416, (Saxet)	735	5831
W. W. Chapman, trustee, Morgan-Clark 5, sec 405 (Saxet)	*	6401
Great State Oil Co. & Violet Oil Co., McGregor-Belk 3, sur 582 & 311 (Saxet)	515	5821
W. L. Hinds, Clara Driscoll Sevier 1, 330 ft s & el's 223.5-ac tr, sec 60, Pauls subd of Driscoll Ranch 9000 ft nw of discovery (Clara Driscoll)	*	3220
W. B. Hinton, E. B. Cole 2, Page Lands (Saxet) perf 4851-67	1152	4867
Houston Oil Co., Morgan 12, sec 7, (Saxet)	564	4424
W. D. Moore, Lackey 2, Villareal gr, (Saxet Heights)	436	4087
North Star Oil Co., Mary Bliss Humphrey 6, J. W. Stevens sur, (Saxet)	*	5840
Pan American Prod. Co., Morgan 5-A, B S & F 403, (Saxet)	504	5830
Pan American Prod. Co., Rand Morgan 1-F, sec 405, (Saxet) sd/tr 4233	*	5888
Pedernal Oil P.J.M. Royalty Co. 1, Oak Park Add (Saxet Heights)	279	4084
R. M. Reed, R. M. Roper 1, 330 ft nl & 165 e & wl's lot 12, blk "E", sec 108, George H. Paul subd, Driscoll Ranch (Driscoll)	816	3958
Santa Clara Oil Co., Clara Driscoll Sevier 3, Bandcroft Farm Lots, (Driscoll)	384	3816
Southern Minerals Corp., Frank Bliss 13, sec 406, (Saxet)	536	5820
Texon Royalty, Anton Kocurek 2, sec 316, (Saxet)	415	4541
REFUGIO COUNTY—		
Atlantic Oil Prod. Co., Tom O'Connor 6, S. Crunk sur, (Greta)	265	4402
D & D Oil Co., Fannie Heard 4, Refugio Town Tract, (Greta)	660	4952
HeWitt & Dougherty, M. F. Lambert 28, J. Carr & J. Connell sur, (Greta) perf 5805-14	1218	5936
E. W. Price et al, R. H. Wood 1, 446 ft midway between el & wl of 100-ac lse or 2271 ft w of el & 446 ft se of nl of 600-ac lse in Don Anastacio Reojas sur	*	6106
Quintana Pet. Co., Mrs. V. F. W. Heard 3, 466 ft wl, 931 ft n No. 2, TH. Webb, blk 48, 1222.5-ac tr, (Tomoconnor)	2625	5919
Quintanna Pet. Corp., Tom O'Connor 4-C, G. W. Maine sur, (Tomoconnor)	2600	5929
United Prod. Co., Fannie Heard 15, Refugio Town Tract (Refugio)	445	4933
SAN PATRICIO COUNTY—		
Acreage Royalty, Ramsey Estate 1, 80-ac, 660 ft n & wl, W. B. Giddings, blk 1	*	lcn.
Centennial Oil Co., Chiltipin Creek 1, sec 71, (Plymouth)	565	5612
Conroe Drilling Co., G. W. Pulling 4, Taft farm lots, (Taft)	695	3982
Plymouth Oil Co., E. H. Welder 56-C, sec 49, (Plymouth)	545	5639
E. H. Welder 68-C, Welder Ranch subd, sec 49, (Plymouth)	575	5516
Sun Oil Co., C. F. Jackson (Rosson) 2, sec 35, (Plymouth)	510	5648
STARR COUNTY—		
Fech Oil, Frank Doyno B-1, por 81, (Rio Grande City)	*	1430
A. G. McMath, M. Guerra Son 1, 150 ft sel 750 ft swl, blk 25, Conroe subd, porc 55, Iuris of Mier	*	513
VICTORIA COUNTY—		
American Tiberty Co., A. Cortez 1, Brownson sur A-382, (Placedo)	795	4770
Barnsdall & Felmont Pickering & Roos 5, Brownson sur 6, (Placedo)	880	4769
W. R. Smith 3, A. Murray sur, (Placedo)	700	6168
Portilla Oil & Gas Co., P. H. Welder 2, Feline Dimmitt sur (Hughes)	480	4820
WEBB COUNTY		
Mills Bennett Prod. Co., J. L. Valadez 1 sur 73, (Lopez)	960	2155
J. L. Valadez, sur 73 (Lopez)	960	2146
G. G. Mortimer, A. Lopez 7, sur 111, (Lopez)	575	2239
Smith & Hamill, S. Benavides 5, Myrtle E. Hale subd, (Cole)	600	2934
Smith & Storey et al, S. Lloyd 1, 330 ft sl, 1010 ft wl sur 23, (Laurel)	*	2350
Superior Oil Co., W. C. Billings 18, sec 109, (Lopez)	435	2265
TRAVIS COUNTY—		
J. Morgan Russell, Mrs. H. Lindgren 1, 600 ft sl, 1000 ft el of 133-ac tr, Kimbro sur, (Kimbro)	*	1274
ZAPATA COUNTY—		
Gilcrease Oil Co., A. P. Haynes 7-C, Comitas & Villa gr, (Comitas)	15	890
A. P. Haynes 10-C, Comitas & Villa gr, (Comitas)	20	890
Nordan & Morris, A. P. Haynes 7-A, Comitas and Villa gr (Comitas)	60	1029

*Failures; †Junked; ¶Million cu. ft. gas.

Deepest Gas Well

FUTURE OIL POSSIBLE FROM ARMSTRONG PLANTATION

WEEKLY STAFF REPORT

Houston.—One of the deepest commercial producing gas wells in the world with possibilities of becoming the deepest commercial oil producer in the world is Harrison and Abercrombie's Armstrong Plantation 1 at Old Ocean in Brazoria County. September 11, at 1:15 p. m. the operators washed the well in from sands at 9835-9854 and 9934-9965 feet. It was making gas with a pressure of 2900 pounds and very little oil. The oil percentage is reported to be increasing. It is not known whether the heavy gas pressure is shutting off the oil flow.

At midnight September 10, the operators were successful in landing screen on bottom after fighting a heavy gas pressure for some time. Tubing was run and washing commenced.

The crew set 30 feet and 11 inches of screen. On top of the screen a 79-foot, three-inch blank screen was set to test the sands from 9934 to 9965 feet. Above the first screen setting the crew set 19 feet and 10 inches screen and 185 feet of 3-inch blank screen to test sands from 9835 to 9854 feet. Also in the setting was a 9-foot, 2-inch packer. All of the above setting was made at one time to test two sands.

Armstrong Plantation 1 is the deepest well in the Texas Gulf Coast and may be the deepest oil producer in the area. The deepest commercial production in the Gulf Coast is around 9650 feet at Lafitte in Jefferson Parish, Louisiana.

Texas Crusaders and H. C. Cockburn's Fee 1, discovery well at Magnet, Wharton County, started making salt water last week, producing from 4 to 15 barrels of fluid by heads showing from 10 to 26 percent salt water through a ¼-inch choke. Tubing pressure was 375 pounds; casing pressure, 175 pounds. The test is producing from Lower Marginulina-Frio sands at 5560 feet. It is believed the salt water is coming in from behind the casing. The operators may pump cement in through the perforations and make another production test to eliminate the salt water.

Three new locations were being made in the new field last week by Van Allen, McDaniel, and Watson, eastern capitalists who purchased the Thomas 30-acre tract offsetting the well to the east. The consideration was $30,000 in cash and $30,000 out of oil.

Probably the most encouraging development in the Texas Gulf Coast last week was the 1800-foot east extension to Hastings field, Brazoria County. Humble Oil & Refining Company's Cecil Brown 1, 466 feet out of the southeast corner of the Snyder Survey, was completed flowing at the rate of 27 barrels per hour from Frio sands at 6080 feet. The 30.7 gravity oil was flowing through a ¼-inch choke with a tubing pressure of 875 pounds and a casing pressure of 850 pounds; gas/oil ratio was 339 to 1. The hole was drilled to 6080 feet; gas sand was logged at 5935 feet, and oil sand at 5970 feet. Seven-inch casing was cemented at 5985 feet. Over 98.8 feet of screen was run into the hole, and 2½-inch tubing was cemented at 5881 feet. C. Brown 1 is running higher than Stanolind Oil & Gas Company's operations on the Ford lease. The well is approximately 100 feet higher than the Ford wells. C. Brown 1 is believed to have cut a fault and to have proved up several hundred acres at Hastings. It will cause other operators to drill wells in the area. Hastings heretofore has been developed solely by Humble Oil & Refining Company and Stanolind Oil & Gas Company.

Humble Oil & Refining Company has made location for C. Brown 2, 330 feet northeast of the southwest line and 990 feet northwest of the southeast line of the W. H. Snyder Survey. It is approximately 660 feet northwest of C. Brown 1.

On the northwest side of Hasting field, Stanolind Oil & Gas Company's Brown B-3, H. & T. B. Survey, Section 29, was completed last week flowing 645 barrels daily through a ¼-inch choke, with a tubing pressure of 950 pounds and a casing pressure of 810 pounds. The well was drilled to 6060 feet in oil sand after topping the formation at 5764 feet and setting 7-inch casing at 5767 feet.

On the north side of the western portion of the field Stanolind Oil & Gas Company's Avitts B-2, H. & T. B. Survey, Section 29, was flowing into pits at the end of the week through a ¼-inch choke, but no gauge was taken. The well is running higher than other wells in that area and should prove a good producer. It indicates that the northwestern portion of the field is not defined. Avitts B-2 was stopped in oil sand at 5950 feet, after drilling approximately 291 feet of sand showing oil and gas.

The west side of Hastings evidently is defined as Stanolind Oil & Gas Company's W. R. Curkeet 2, H. & T. B. Survey, Section 35, was running an electrical logging device to 6128 feet after it failed to show anything on a drill stem test. This company made location for A. R. Scott 1 at Hastings. It is a north offset to Avitts B-1 and is 330 feet from the south line and 368 feet from the west line of Block 35, H. & T. B. Survey, Section 29. The same operators also made location for Ford 4. It is 190 feet from the south line and 330 feet southwest of the northeast line of the lease in the A. C. H. & B. Survey, No. 1, and a west offset to Humble Oil & Refining Company's C. Brown 1.

Hastings field is being developed in such a manner that Showers and Moncrief, Quintana Petroleum Company, Mid Texas Oil Company, and several other independent oil companies may have producing leases there.

About 2000 feet east of production at Gillock, or the southwest portion of Dickinson field, Galveston County, Pan American Production Company's Craig 1, W. K. Wilson Survey, was pulling screen to deepen at 8140 feet after a production test showed gas and salt water. The operators will start coring for oil sands which were found in Humble Oil & Refining Company's Maco Stewart A-9 around 8690 feet. Craig 1 is running considerably higher than other wells in that area. It was rumored that Pan American Production Company was going to complete wells in this area for gas so the company could furnish gas to the Pan American Refinery at Texas City. This rumor could not be confirmed.

South of production at Gillock, Ken Ben Oil Company's Maco Stewart 2, W. K. Wilson Survey, was plugging back below 8517 feet to make another production test. The operators tested sands at 8632 feet and found nothing interesting. Sands tested from 8496 to 8517 feet.

Sun Oil Company's Hughes 1, the first well to show commercial oil at Green's Lake, Galveston County, was recompleted last week making 225 barrels daily through a ¼-inch choke, with tubing and casing pressures of 150 pounds. The well was showing from 5 to 15 percent salt water. The test was completed from sands at 3627 to 3624 feet.

Turtle Bay Failure

The first failure was reported at Turtle Bay, Chambers County, last week when Stanolind Oil & Gas Company abandoned State 3, at 6622 feet. While the operators have given up hope for oil, they will run a string of casing to use the test to dispose of brine which is found in other tests. Each drill stem test on State 3 showed salt water with a trace of oil.

West of the discovery well at Cotton Lake, Chambers County, Glenn H. McCarthy abandoned Kilgore 2, J. Townsend Survey at 7030 feet in Frio formation. Frio formation was found barren, and only a thin sand section was found in the Marginulina. The rig is being moved over to drill Kilgore 3. It is 466 feet out of the most easterly southeast corner of the lease in the J. Townsend Survey and an east offset to the discovery well and also between the first producer and Humble Oil & Refining Company's Dutton 1. It is believed that the discovery well is an edge well and that production will be found east of it. The discovery well for the Cotton Lake field is mak-

ing approximately 125 barrels daily through a 12/64-inch choke, with a tubing pressure of 1950 pounds and a casing pressure of 2250 pounds.

At Anahuac, Chambers County, Humble Oil & Refining was extending the field northwest. White B-5, J. McGehay Survey, drilled water sand from 7194 to 7224 feet and plugged back to 7045 feet. Five and one-half-inch tubing has been hung at 6979 feet for a test of sands showing oil from 7021 to 7031 feet. If the well is a commercial producer it will extend the field 2500 feet.

About 2000 feet east of production at Anahuac, Sun Oil Company was preparing to drill plug on M. White 1, which cored sand showing oil from 7132 to 7143 feet and set 7-inch casing at 7120 feet. A production test will be made over the week end.

Sun Oil Company made a second wildcat location the past week on the Seabreeze prospect in Chambers County. H. O. Acom 1, three miles northeast of Hamilton 1 and 1400 feet out of the southeast corner of the T. & N. O. Survey, Section 128.

East of the discovery well at Fairbanks field, Harris County, Amerada Petroleum Company and Stanolind Oil & Gas Company's Carpenter 1, F. Fry Survey, was drilling in shale below 5690 feet, and, according to geological markers, it is running approximately 40 feet higher than the discovery well.

On the Bammel prospect in Harris County, Bunte Oil & Gas Company's Graves 1, C. Walters Survey, was drilling in shale 5495 feet at the end of the week and is reported to be running flat with other dry holes in the area.

On the northwest side of South Houston field, Harris County, Stanolind Oil and Gas Company completed Carson 1, South Houston Gardens Subdivision No. 7, The well came in making 54 barrels daily through a ¼-inch choke with a tubing pressure of 200 pounds and a casing pressure of 625 pounds. The hole was drilled to 4820 feet and oil sand was encountered at 4762 feet. Seven-inch casing was cemenetd at 4756 feet.

Sun Oil Company and Shell Petroleum Corporation have made location for Paggi 1 at Nome, Jefferson County. It is 3200 feet east of the west line and 490 feet south of the north line of the lease and in the J.W. Kirby Survey, Abstract 584. It is a north offset to the Sun Oil Company's Paggi 2 and a south offset of Shell Petroleum Corporation's Carpenter 1, the discovery well.

M. R. Exploration Company has made location for a wildcat in Burleson County.

TEXAS GULF COAST
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
AMELIA—		
Humble, Peveto 1	528	6781
ANAHUAC—		
Humble, Grippon 5	504	7093
ARIOLA—		
Republic Production Co., Fee 14	153	3285
CLAY CREEK—		
Sun, Quebe 4	¶1	1133
CONROE—		
Gar-Flo Oil Co., Keystone-Garrett 4	*	5143
COTTON LAKE—		
Glenn H. McCarthy, Kilgore 2	*	7030
GREEN'S LAKE—		
Sun, Hughes 1 (wo)	228	3634
HASTINGS—		
Humble, C. Brown 1	648	6080
Stanolind, Brown B-3	645	6060
HIGH ISLAND—		
Stanolind, Cade A-57	525	5300
HULL—		
C. C. Evans, Carr 3	5	478
W. B. Flyn, Able A-19	8	429
Fudge Oil Co., Able 1-B	*	750
Republic Prod. Co., Dolbear 161	*	4191
MANVEL—		
Sterling, Yewell 1	30	4089
Texas Co., Dawson 3	550	5700
SOUTH HOUSTON—		
Smith & McDannald, Merridith 2	440..	4019
Stanolind, Carson 1	54	4820
SPINDLE TOP—		
Belen Oil Co., Tyrell 1	15	945
PICKETT RIDGE—		
Texas Co., Pierce Estate A-31	*	4820
PIERCE JUNCTION—		
Superior Oil & Gas Co., Whitehead 2 (wo)	110	4623
TOMBALL—		
Humble, Reid 14	*	5571
TURTLE BAY—		
Stanolind, State 3	*	6622
WITHERS—		
Texas Co., Pierce Estate C-11	360	5556
MATAGORDA COUNTY—		
John Deering, Estill 1, Cedar Lane area, Tone & Jamison sur	*	6868
Sun Oil Co., Craig 1, Hawkinsville dome, T. Williams sur	10	5160
Texas Gulf & Superior Oil Prod. Co., Wadsworth 2, Sheppards Mott area, S. R. Fisher sur	*	9003
ORANGE COUNTY—		
C. W. McPhail, Owens 2, B. B. & C. sur, sec 387	*	1718
J. R. Turnbull & L. U. Roundtree, Lutcher Moore 1, J. Dyson sur	*	7006
WALKER COUNTY—		
L. M. Gay et al, Stubblefield 1, w of Trinity, G. Badilla sur	*	3013

*Failures; †Junked; ¶Million cu. ft. gas.

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J. M. Fontaine 2 is 1300 feet north of Fontaine 1, 2000 varas from the northwest line and 4650 varas from the southwest line of the Wm. Raligh Survey.

Continental Oil Company has made a wildcat location at Citrus Grove, Matagorda County. The operator's Robbins 2 is 2800 feet east of Robbin 1 and 1300 feet north of the south line and 530 feet east of the west line of the C. Franz Survey.

At Sheppards Mott, Texas Gulf Producing & Superior Oil Producing Company abandoned Wadsworth 1, S. R. Fisher Survey, at 9003 feet after coring salt water sand from 8845 to 8855 feet and several other showings of brackish water.

On the east flank of Hawkinsville dome, Matagorda County, Sun Oil Company finally completed Craig 1. The well is pumping approximately 10 barrels per day and showing about 5 percent salt water. Craig 1 is producing from Miocene sands at 5150 feet and is considered the discovery well for Hawkinsville field.

Over a half mile northeast of production at Van Vleck, Matagorda County, McDaniel et al have made location for Dye 1. It is 466 feet from the southwest line and 1434 feet from the northwest line of the tract in the M. Cummings Survey.

Houston.—Sun Oil Company is moving in a new string of 3½-inch drill pipe to be prepared to drill to the 9000-foot level on its H. Lauter 1, located on the south end of the Clay Creek field in Washington County. Operations have been idle on this test for several weeks after cementing 7-inch casing at 7445 feet, with the hole bottomed at 7456 feet. The company purchased a new heavy-duty rotary rig for this project. Electrical formation surveying instrument used on Lauter 1 prior to landing the 7-inch pipe recorded evidence of oil saturation at 5082-5143 feet and 6658-6668 feet, but not sufficient to justify a production test.

FILE GAS SUIT

Is first case involving Texas conservation law

Austin.—The first suit involving violations of House Bill 266, the gas conservation law, was filed last week in District Court at Austin.

F. C. Henderson Company of Amarillo, was named defendant in a petition filed by the attorney general of Texas on behalf of the Texas Railroad Commission.

The company is charged with violation of the state law and of the provisions of a federal injunction.

It is alleged that they produced daily from four sour gas wells more than 25 percent of the well potential. It is further contended that they reported an excessive amount of gas as used for fuel.

The company is charged with filing false reports in which sweet gas wells were listed as sour gas wells. It is alleged also that the residue from these sweet gas wells was used for the manufacture of carbon black, a use specifically prohibited by House Bill 266.

The violations are alleged to have taken place during the month of July, 1936.

Charenton Proven

MIKE HOGG'S LAWES REALTY TEST FLOWS 515 BARRELS

Lake Charles.—Miocene sand under the Charenton prospect, St. Mary Parish, proved productive September 6 when Mike Hogg's Lawes Realty Company 1, east of Charenton, Section 30-13s-10e, penetrated the formation from 7200 to 7210 feet and came in flowing 34.8° corrected gravity pipe line oil at the rate of 515 barrels per day through a 5/16-inch choke.

Washing the discovery well started at 7:45 a.m. September 6. At 10:50 a.m. the flow was turned into the storage tanks. Tubing pressure was 260 pounds. The casing was sealed. At noon the same day the pressure had increased to 575 pounds. On the first hour gauge the discovery well flowed 21 barrels through a 5/16-inch choke showing five percent basic sediment and wash water. The first 3 hours the test made 59 barrels. On the first 24-hour gauge it flowed 515 barrels through a 5/16-inch choke and the tubing pressure had increased to 775 pounds.

Lawes Realty Company 1 loomed as the discovery well for the new "Charenton" field the previous week when a 15-minute drill-stem test from 7195 to 7210 feet showed 6000 feet of 34.9 gravity oil through small size chokes on top and bottom of the testing tool. The well registered 50 pounds pressure while the testing tool was being removed. Seven-inch casing was cemented at 7195 feet.

Harry Hanszen, who drilled the well under the name of Mike Hogg, spudded the well in July 9, 1936, and set 13⅜-inch casing at 1406 feet. At 2150 feet and 2900 feet the wildcat had showings of oil. After drilling to 4148 feet a drill stem test showed saturated oil sand and a 50-pound pressure. Several other drill stem tests were made from 4200 to 5000 feet. At 6253 feet the test showed 36.2 gravity oily mud. Another drill stem test at 6802 feet showed oil and mud with a salty taste. A little free oil was recovered on a test at 6755 feet, and the last drill stem test from 7196 to 7210 feet warranted the setting of 7-inch casing for a production test. After setting the casing at 7195 feet, 12 feet of screen and 2½-inch tubing were run to 7205 feet.

Location for the Mike Hogg discovery well was made by the Petty Geophysical Engineering Company of San Antonio, Texas, following a reflection seismograph survey by this concern.

Harry Hanszen, who drilled the discovery well at Jeanerette, which is six miles west of Charenton, opened his second field when he brought in Lawes Realty Company 1. The Charenton prospect was taken by the operators several years ago and worked with reflection seismograph. After finding a high in the area a block of approximately 8400 acres was taken by Harry Hanszen and several other Houston associates. Prior to the reflection work, the area worked with torsion balance and a major company failed to find any reaction in that section.

It is believed that the operators will lay a pipe line west to Bayou Teche and barge the oil out along with Jeanerette crude. No new locations were reported at the end of the week for the new Charenton field.

South Jennings Watched

Since the Lawes Realty Company 1 has been completed the eyes of the oil operators in the Louisiana sector of the Gulf Coast have turned to Stanolind Oil & Gas Company's Calcasieu National Bank 1 on the South Jennings prospect in Jefferson Davis Parish. Calcasieu National Bank 1, Section 15-10s-3w, was drilling in shale at 9310 feet in shale at the end of the week after trying to blow out at 9296 feet. The crew cored an oil sand from 9292 to 9296 feet and had to circulate for 32 hours before the gas pressure could be killed. The well attempted several times in that period to get out from under control. Nine and five eighths-inch casing had been set at 8900 feet after a sand showing oil from 8582 to 8650 feet showed good porosity on an electrical logging device. The hole will be carried to 10,000 feet and if no new sands are found it will be plugged back and tested.

Disappointments at Lafitte, Jefferson Parish, appear in The Texas Company's two extension tests drilling north and south of production. L. L. E. Lafitte 5, Section 20-17s-24e, north of production, was drilling in sand rock at 9745 feet at the end of the week with a slight odor of oil. Rigoletts 5, Section 29-17s-24e, south of production, was drilling in shale at 9799 feet. Both of the above wells have missed the regular producing sands, which are found at 9550 to 9650 feet, and evidently have defined the field in the two directions. The wells probably will be

SOUTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BAY ST. ELAINE—		
Texas Co., Bay St. Elaine 12.....	*	7831
BLACK BAYOU—		
Shell, Watkins 34	¶1	5376
CAMERON MEADOWS—		
Union Sulphur, Humble 8 (wo)....	240	5972
EAST HACKBERRY—		
Stanolind, Gulf Fee B-23.....	679	5930
GARDEN ISLAND—		
Texas Co., Garden Island Bay 19...	1219	4635
GILLIS—		
Union Sulphur, Powell Lumber Co. 9	500	6733
NEW IBERIA—		
Wm. Helis, Bullock & Burk 1.....	*	3806
LEEVILLE—		
Texas Co., L. L. E. Leeville 53.....	*	6375
TEPETATE—		
Continental, T. Ortego 3.....	235	7314
CALCASIEU PARISH—		
Union Sulphur Co., Wurmnest 1, South Lake Charles prospect, 9-11s-8w	*	9250
ST. MARY PARISH—		
Mike Hogg, Lawes Realty 1, Charenton prospect, 30-13s-10e.....	515	7210

*Failures; †Junked; ¶Million cu. ft. gas.

drilled down to 10,000 feet in search of a new producing horizon.

A wildcat location was made on the Henderson prospect, St. Martin Parish: The Texas Company's St. Martin Land Company 9. It is 1400 feet east and 467 feet south of NWc 21-8s-7e. This wildcat will make the fifth test to be drilled on the Henderson prospect. Each test drilled in the area has shown oil.

Another wildcat was abandoned on the South Lake Charles prospect, Calcasieu Parish. Union Sulphur Company quit Wurmnest 1, Section 9-11s-8w, at 9250 feet after running an electrical logging device. The well failed to encounter any showings of oil.

Gillis Extended

Gillis field, Calcasieu Parish, was extended north last week when Union Sulphur Company completed Powell Lumber Company 9, Section 12-9s-8w, for 503 barrels daily from Marginulina formation at 6733 feet. The flow was through a ¼-inch choke, with a tubing pressure of 221 pounds. The 36.5 gravity oil was flowing from sands at 6718 to 6727 feet. Five-inch casing was cemented at 6718 feet. On the northwest side of the field. Union Sulphur Company's Barbee 8, Section 11-9s-8w, failed to make a producer in the 7500-foot sand. After setting 4½-inch casing at 7530 feet the crew perforated the casing with 70 shots from 7408 to 7507 feet and the well made salt water with a show of gas. The hole has been plugged back and a test will be made at 6850 feet.

North of production at Gillis and in the area where Union Sulphur Company abandoned Barbee Estate 1, the same operator's Barbee Estate 9, Section 1-9s-8w, showed for a producer when a 5-minute drill stem test at 6768 feet showed 10 fourbles of oil and three fourbles of mud.

East of production at Gillis, The Texas Company's Nickerson Fee 11, Section 12-9s-8w, was waiting on cement to set at the end of the week. Seven-inch casing was cemented at 6712 feet, and sand showing oil was logged from 6713 to 6718 feet.

On Abbeville prospect, Vermilion Parish, Continental Oil Company's Hebert 1, Section 20-12s-3e, was drilling in shale at 11,552 feet at the end of the week. The operators are making approximately 25 feet daily and are drilling slowly because the pipe attempts to sway off vertical. At 11,505 feet it was necessary to plug back to 10,947 feet to straighten the hole, which was seven degrees off vertical at the bottom.

The fourth oil producer was completed at Garden Island Bay last week by The Texas Company. Garden Island Bay 19, Section 37-23s-33e, came in flowing at the rate of 1219 barrels daily through a ⅜-inch choke. Tubing pressure was 655 pounds. The hole was drilled to 4635 feet and sand showing oil was logged from 4604 to 4616 feet. At 4601 feet 7⅝-inch casing was cemented with 200 sacks.

Another deep test at Bay St. Elaine was abandoned by The Texas Company. Bay St. Elaine 12, Section 30-22s-16e, was drilled to 7831 feet in salt establishing a new record for deep drilling at Bay St. Elaine. Top of the salt was found at 7821 feet.

On the northeast side of Tepetate field, Acadia Parish, Continental Oil Company's Welsh 6-A, Section 28-7s-2w, cored oil sand at 8309 feet and ran 5¾-inch casing to that depth. The well is reported running high compared with other wells drilled in the field. Continental Oil Company completed T. Ortego 3, Section 28-7s-2w, last week at 8314 feet for 235 barrels daily through a 5/32-inch choke, with a tubing pressure of 1025 pounds and a casing pressure of 1050 pounds. Gas sand was logged at 8294 feet and oil sand at 8300 feet. Five and three quarters-inch casing was set at 8314 feet.

Humble Oil & Refining Company's J. A. Bel 1 on the Bel prospect in Section 28-6s-7w, Allen Parish, was cutting and pulling casing last week below 2500 feet, preparing to abandon. The hole was drilled to 9833 feet.

On Castell prospect, Terrebonne Parish, Humble Oil & Refining Company's Continental Land & Fur Company 1, Section 30-17s-14e, was running geophysical instrument into the hole at 10,254 feet.

Humble Oil & Refining Company made location east of the old Bayou Blue dome last week for Wilbert 1. It is 250 feet east and 2250 feet south of NWc 67-9s-11e, Iberville Parish. In 1935, Humble Oil & Refining Company acquired from Standard Oil Company of Louisiana certain interests at Bayou Blue and Bayou De Glaize. The acreage acquired is supposed to have given Humble Oil & Refining Company control of the two domes. Humble worked the two with refraction seismograph years ago and presumably discovered a prospect. In recent years the operators have worked the area with more advanced methods of geophysics and are reported to have found a dome. Bayou Blue dome has produced a small amount of oil from 6 wells, but in the last three years the field has produced nothing of commercial value.

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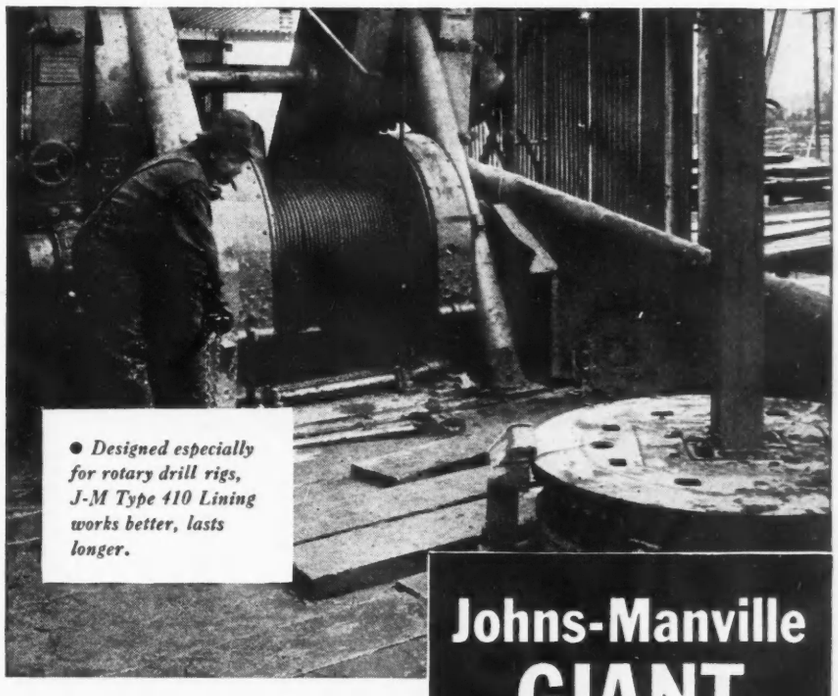

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Three Good Wells

AT RODESSA INCLUDE ONE EXTENDING QUARTER MILE

NORTH LOUISIANA

WEEKLY STAFF REPORT

Shreveport.—Three good producers were completed in the northeast part of the Rodessa field in Caddo Parish last week, one of which extended production ¼-mile, and a connecting well between the 2-mile southwest outpost in Cass County, Texas, and other nearest production was also added, to feature operations in that field.

The southeast extension was Phillips Petroleum Company's Interstate 1, NW NE NW 16-23n-15w, completed at 6074 feet flowing 20 barrels of oil per hour through ¼-inch tubing choke. The well was swabbed for several days before being completed.

Midway between a ½-mile northeast outpost producer in the same section and owned by the same company, Lion Oil Refining Company completed John M. Wynn 1, SW SW 9-23n-15w, at 6094 feet flowing 35 barrels per hour through ⅜-inch tubing choke with tubing pressure 350 pounds and casing pressure, 500 pounds. Locations were immediately staked for John M. Wynn 3 and 4 in the same quarter section. In the northern edge of the field on the Caddo side, Standard Oil Company of Louisiana completed Caldwell 7, Section 12-23n-16w, flowing 130 barrels per hour through 1-inch tubing choke at 6046 feet. Another northeast edge well completed last week was J. G. Collin's School Board 1, NE NW SE 8-23n-15w, on a 2-acre tract completed at 5947 feet flowing 21 barrels per hour through ¼-inch tubing choke. Rigging up has started for a second well.

Connecting Superior Oil Company's Mrs. Susie B. Chatten 1, William R. Meyers Survey, Cass County, completed several weeks ago to extend the Texas side of Rodessa over 2 miles southwest, and the nearest other production, Vaughn Production Company's Vaughn 4, SFIW Survey, was completed at 5986 feet flowing 80 barrels of oil per hour through ⅝-inch tubing choke. This well had 13 feet of saturated lime. Casing was cemented at 5940 feet. The nearest producer to the northeast is Superior Oil Company's Chew 1, in the SFIW Survey.

Two other wells were completed last week on the Cass County side of the field, both by Showers & Moncrief and both in the Robert Trammell Survey. Stallcup 2 was completed at 6030 feet flowing 20 barrels per hour through ¼-inch tubing choke and Stallcup 3 was completed at 6010 feet flowing 22 barrels per hour through same sized tubing choke.

American Liberty Oil Company last week abandoned Gilbert Stephens 1, Jacob Carsner Survey, as a dry hole after it failed to produce in any of the four Rodessa horizons, it having been plugged back and perforated in the Hill, Gloyd and Dees after the Young horizon was dry at 6084 feet. It was Rodessa's first failure since Haynes Production Company's Miller County, Arkansas, failure in the early days of the field definitely showed it was off structure to the north of Rodessa.

Outpost Locations

Outpost locations were made at both ends of Rodessa last week. In the northeast area G. M. Parker and associates made location for Sumner 1, located 1915 feet north and 2320 feet east SWc 10-23n-15w, and 1½ miles north of production in Cass County, A. J. Oliphint and associates made location for George Parker 1, G. Crowder Survey.

In Cass County, G. H. Chamblee has applied for 9 permits to drill on the 20.16-acre Collett lease in the J. S. Smith Survey, 1¼ miles north of Superior Oil Company's Chatten 1. G. H. Vaughn has filed petition for a permit to drill H. Shepherd 1, on a 5-acre tract in the W. R. Meyers Survey. In the Rodessa townsite, W. D. Ambrose made location for Johnson 1, Section 23-23n-16w, just north of block five.

Red Iron Drilling Company's Glassell 1, SW NE 9-23n-15w, ½-mile northeast outpost at Rodessa, which is expected to have an important bearing on the future of that part of the field, logged massive anhydrite at 5155 feet and later was drilling below 5200 feet; elevation is 263 feet.

In the northeast part of the Rodessa field, Rodessa Gasoline Company has begun operations after tieing into Blackwell Oil & Gas Company's Neugent lease in Section 8-23n-15w and is producing about 1200 gallons of gasoline daily from 2,500,000 cubic feet of gas. Production is being stored; plans are to lay a line soon to the town of Ida where a loading rack will be erected.

Discovery of oil in the Travis Peak horizon in the Cotton Valley field, Webster Parish, has given new life to leasing and geophysical activity in North Louisiana, with especial activity noted in leasing around old shallow fields which had been a custom to a large extent in some areas

When In Doubt

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SHREVEPORT, LOUISIANA

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for possible Glen Rose production after Rodessa became productive.

The old Homer field in Claiborne Parish where oil has been produced from the Nacatosh and Ozan since 1919, has seen some activity. West Production Company has secured 160 acres from John Magale's holdings in township 21 north, range 7 west. Magnolia Petroleum Company has a geophysical crew working in township 22 north, ranges 6 and 7 west in the same parish, after having recently completed work east of the old Haynesville shallow field which produces from the Ozan at 2800 feet and has two wells producing from the lower Cretaceous.

H. L. Hunt, Incorporated, has taken an interest in J. W. Leonard and associates' Courtney Heirs 1, Section 5-17n-7w, Bienville Parish, drilled to 6002 feet, and the test will be deepened to the Travis Peak.

Around the old Elm Grove gas and oil field in township 16 north, range 12 west and the Sligo gas field township 17 north, range 12 west, both in Bossier Parish, United Gas Public Service Company has had a seismograph unit working, taking in parts of townships 15, 16 and 17 north, ranges 11 and 12 west.

Triangle Drilling Company's Skannal E-1 C S½ 23-17n-12w, is ready to perforate casing and test Travis Peak possibilities at Sligo. This test has total depth of 5696 feet and logged top of Travis Peak at 5475 feet. Seven-inch casing was cemented at 5560 feet. Three feet of saturated formation was reported at 5471 to 5474 feet and 2.5 feet of saturation was reported at 5502-5504 feet. Elevation is 216 feet.

In Bienville Parish, Haynes Brothers are taking a few leases in township 17 north, range 7 west, and Gulf Oil Corporation has been leasing in township 16 north, range 7 west. West Production Company has been leasing in township 16 north, range 10 west of the same parish.

It is reported that Seaboard Oil Corporation is planning to deepen McGee 1, Section 3-16n-6w, Bienville Parish, abandoned several months ago below 6000 feet, to the Travis Peak. Lide & Greer, who several months ago opened a new gas-distillate field in Section 12-16n-5w, of the same parish, are reported ready to make an early location for a 9000-foot test on this block, which probably will be southwest of the gas-distillate producer completed below 5800 feet.

The western part of DeSoto Parish where considerable blocking of acreage by Ohio Oil Company and others went on several weeks ago is getting considerable activity due to the completion of H. A. Stebbinger and associates' Pickering Lumber Company 1, C. E. Henry Survey, Shelby County, Texas, only a few miles west of the DeSoto Parish, Louisiana, line. Ohio Oil Company added acreage in township 11 north, range 15 west, and other companies leasing in this general area include Arkansas-Louisiana Gas Company, Shell Petroleum Corporation, Magnolia Petroleum Company, Amerada Petroleum Corporation, Texas Company and Sun Oil Company. In northern DeSoto Parish, and southwest Caddo Parish, M. W. Ellis and W. J. Hunter in townships 15 and 16, ranges 14 and 15 west, have assembled a block of several thousand acres. This is southeast of the Bethany gas field and northeast of the Shelby County, Texas, gasser. Sinclair Oil Company and Shell Petroleum Corporation have seismograph units working in township 12, ranges 13, 14, 15 and 16 west.

In La Salle Parish, Gulf Oil Corporation is leasing in township 10 north, range 4 east where H. L. Hunt, Incorporated, plans an early deep test. This company is reported to have taken a geophysical option on a large amount of Louisiana Central Lumber Company land in La-Salle, Caldwell and adjacent Parishes.

Webster Parish leasing has not been confined to Cotton Valley where there is little close-in acreage available as several companies operating shallow stripper wells in the field had practically everything available under lease. Around a geophysical high recently mapped in township 18 north, range 10 west of this parish and where Tidewater Oil Company plans an early test, Shell Petroleum Corporation recently acquired 120 acres in Section 21-18n-10w. Ray Drilling Company took 40 acres in Section 15-18n-8w.

In Franklin Parish where it already has a large block, United Gas Public Service Company has been taking a few additional leases in township 11 north, range 9 east. In Ouachita Parish, Gulf Oil Corporation has a geophysical crew working in township 15 north, range 2 east.

Seaboard Oil Company has taken over a 6500-acre block of leases assembled by Marr & Perkins and is preparing to make location in Section 34-22n-10w, Webster Parish, 6 miles north of the new Travis Peak discovery well in the Cotton Valley field for

NORTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH (Rodessa)—		
J. G. Collin, School Board 1, 8-23n-15w	2000	5947
Lion O. R. Co., Jno. M. Wynn 2, 9-23n-15w	2000	6094
Phillips Pet. Co., Interstate 1, 16-23n-15w	2000	6074
Standard Oil Co. of La., Caldwell 7, 12-23n-16w	2000	6046
CASS COUNTY (Texas) Rodessa—		
American Liberty Oil Co., Gilbert Stephens 1, Jacob Carsner sur.	*	6084
Showers & Moncrief, Stallcup 2, Robt. Trammell sur	2000	6030
Stallcup 3, Robt. Trammell sur.	2000	6010
Vaughn Prod. Co. Willis 4, SFIW sur	3000	5986
MOREHOUSE PARISH (Monroe)—		
United Gas Pub. Serv. Co., Crossett Lbr. Co. 41, 18-21n-5e	¶6½	2250
WEBSTER PARISH (Cotton Valley)—		
Ohio Oil Co., R. L. Holloway 6, 23-21n-10w	†3-520	5550

*Failures; †Junked; ¶Million cu. ft. gas.

Seek Rodessa Cut

COMMITTEE TO PRESENT FINDINGS TO GOVERNOR

Shreveport. — Recommendations of the Rodessa Operators Committee organized several weeks ago to study gas-oil ratios and bottom hole pressures on the Louisiana side of the Rodessa field, will be submitted to Governor Richard W. Leche of Louisiana, Conservation Commissioner W. G. Rankin and Minerals Director J. A. Shaw at a conference in Governor Leche's office in Baton Rouge, Monday, September 14, at 10 a. m.

These recommendations, which were presented informally at a conference with Director Shaw in Shreveport last Tuesday, will be in the nature of what is a preliminary step toward curbing gas waste in Rodessa and taking steps to halt the bottom-hole pressure drop.

The findings of an engineering subcommittee composed of engineers of companies operating on the Louisiana side of Rodessa, with maps showing high- and low-pressure areas as found from a study of 65 key wells, with other data will be submitted. The engineering committee is under the direction of H. W. Bell of Standard Oil Company of Louisiana.

The engineers' committee found that the bottom-hole pressure drop for the field was 152 pounds during the 51 days from July 7, 1936, to August 27, 1936, or a fraction less than an average of 3 pounds per day. The greatest drop recorded in any one well for this period was 96 pounds.

The committee will recommend that the gas-oil ratio, as a preliminary step be limited to 12,500 to 1, or on the basis of present per-well allowable of 240 barrels this will be 3 million cubic feet of gas per day. It is estimated that 500 million cubic feet of gas escapes from the 250 wells producing in the field at the time the data were gathered.

Some wells drilled in the early days of the field had casing set well above the bottom of the Dees formation, the third of the gas producing horizons that also produces oil especially down the structure, in order that operators would be certain not to case off any producing possibilities.

Steps are alreay being taken by three companies in seven of these earlier wells to set an additional short string of casing averaging about 38 feet below bottom of the 7-inch string to shut off the Dees gas-producing horizon. If this procedure is successful as it is believed it will be, others will follow. By experience operators have learned to set 7-inch casing deeper than in the early days of the field and later wells have not had this condition.

In the townsite part of the field in Section 23-23n-16w, on the high part of the structure on the Louisiana side the gas-oil ratio has been found to be high due to the proximity of the Dees and Young and most of the oil wells completed in this part of the field have in reality been nothing more than gas-distillate wells.

Despite the fact that reports have been heard of protests to be filed by some of the land owners in the Cotton Valley field, Webster Parish, recently brought back into the limelight with completion of North Louisiana's first oil well in the Travis Peak, Dr. J. A. Shaw said last week no alteration of the 40-acre spacing rule announced for that field was contemplated. He said the rule was made after over 99 percent of holders of acreage had requested it.

a 6000-foot test. This test will be watched with interest for it will show whether the Travis Peak extends in that direction.

Two miles southwest of Ohio Oil Company's Travis Peak producer, R. L. Holloway 6, Section 23-21n-10w, Doan Oil Company has taken a 40-acre lease, NE SW 28-21n-10w.

The first of half a dozen locations to spud for the Travis Peak at Cotton Valley started making hole last week in United Gas Public Service Company's Mixon 1, Section 22-21n-10w, which set 13⅜-inch casing at 350 feet.

Ohio Oil Company's R. L. Holloway 6 at Cotton Valley is averaging a few barrels over 500 barrels daily with about 3,000,000 cubic feet of gas flowing through ⅜-inch tubing choke. The gas is being processed at the company's plant at Cotton Valley.

An east offset to the discovery gas-distillate producer completed in Section 36-18n-9w, Sibley area, Webster Parish, was showing for a large gas-distillate producer last week in J. P. Evans' T. H. Johnson 1, SW NW SW 36-18n-9w, which was plugged back and casing perforated at 5586-5615 feet. The well previously tested through casing perforated with 20 shots at 5738-48 feet, failed to flow and was then rocked with gas after which it showed 3,000,000 cubic feet of gas on a ¾-inch choke, with a show of salt water. It soon bridged and was plugged back.

Meanwhile, W. D. Ambrose's Crichton 1, northeast offset to the discovery well, is ready to test at total depth of 5835 feet. It is in Section 36-18n-9w.

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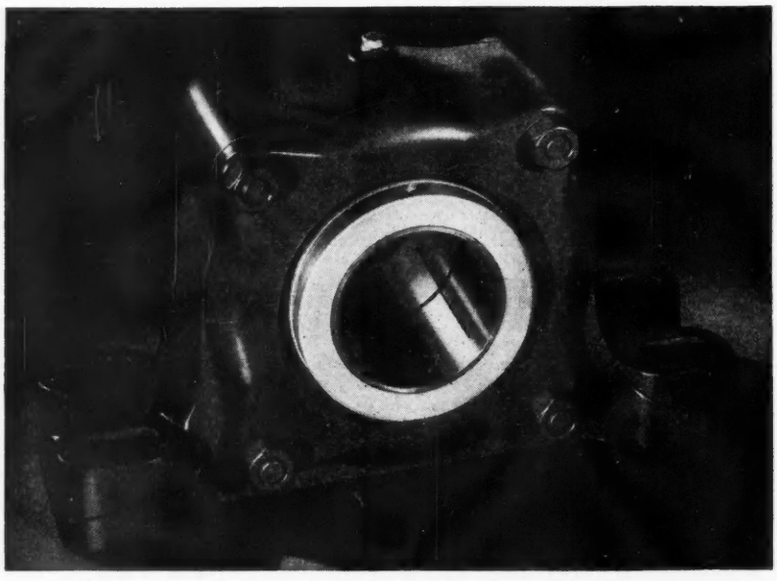

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TWO IN SALT

Failures recorded in Arkansas operations

WEEKLY STAFF REPORT

El Dorado, Ark.—Finis was written last week to any further immediate prospects of exploration of the Permian lime farther down than at the immediate top around 4900 feet in the Snow Hill district, Ouachita County, Arkansas, when Phillips Petroleum Company began plugging back to the 4900-foot level in Arnold 1, NE SW 27-15-15, after reaching total depth of 5708 feet. This test, which went through the lime into rock salt at 5630 feet, was taken to this level in search of possible better production than that found at the top at 4900 feet which has shown salt water in the wells so far completed. Elevation is 207 feet.

Phillips Petroleum Company also definitely abandoned Murphy Land Company 1, NW NW 12-17-11, Bradley County, in rock salt at 5629 feet. This company also abandoned A. T. Morgan 1, center south half 18-18-17, Union County, as a dry hole at 4270 feet.

Two new locations were announced in Arkansas last week, one in Columbia County and the other in Miller County. The former is J. C. Buckbee, Trustee's Cumbie 1, Section NE NW NW 17-18-17, Columbia County, which has spudded and is drilling below 1800 feet, and the latter is Erwin and Leach's Red River Farm 1, Section 2-17-26, Miller County, on the north side of the Irma Graben.

3 ARKANSAS PERMITS

El Dorado, Ark.—Three drilling permits were authorized last week by the Arkansas Board of Conservation, as follows:

Columbia County—J. C. Buckbee, Trustee, Lelia Cumbie 1, 330 feet south and west NEc NW NW 17-18-17;

Hempstead County—Imperial Oil & Gas Products Company, Eliza W. Foster 1, 330 feet north and 138 feet east SWc N½ SW 35-12-26;

Union County—Penn-Ark Petroleum Corporation, W. N. Raulston 1, located 330 feet south and east NWc NW SE 12-17-14.

ARKANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BRADLEY COUNTY—		
Phillips Pet. Co., Murphy Land Co. 1, 12-17-11	*	5629
UNION COUNTY—		
Phillips Pet. Co., Morgan 1, 18-18-17	*	4270

*Failures; †Junked; ¶Million cu. ft. gas.

MISSISSIPPI

Hattiesburg, Miss.—Drilling operations are due to be underway by September 15 on Sun Oil Company and Wanette Oil Company's Scanlan & Semmes 1, C SW NE 28-4n-15w, projected deep wildcat for Lamar County and about 16 miles west of Hattiesburg. Contract was awarded to Joe Modisette, and equipment has been moved in to be prepared to drill to 8500 feet in order to test the Lower Cretaceous zone. Operators erected a 136-foot steel derrick, with a 10-foot sub-structure last week. The partnership holds lease on about 35,000 acres in the area, and also mineral deeds on many tracts, according to reports. Wanette Oil Company, headed by E. B. Germany, Dallas, Texas, owns one fourth interest in the drilling block, mineral deeds and the test. The latter concern drilled a 3520-foot test about one mile to the north of the new drilling site, and registered abnormal structural relief for the area that has since been substantiated by extensive core drilling and subsurface work.

Corpus Christi.—Shelly Refining Company, Bay City, Texas, has acquired Phoenix Refining Company's 1000-barrel capacity crude skimming plant at Chalmers. The former concern was formed last August by Franklin E. Shelly, Jr., G. N. Craig and Robert G. Reeves.

Hidden Dome Well

STARTS THREE TESTS; GARLAND INTERESTING

ROCKY MOUNTAIN FIELDS

WEEKLY STAFF REPORT

Casper, Wyo.—As a result of Bruce Teeter's recent completion which flowed 300 barrels initial, three new wells started drilling and one resumed in the Hidden Dome field. Christensen & Thorne had a failure for the field this week. The test, Government 2, NW SW SW 31-48n-90w, was abandoned at 1404 feet after operators were unable to fish out lost string of tools. Yale Oil Corporation's Government 1, SE SE SE 25-48n-91w, is drilling at 97 feet. Nystrom & Smoot's State 3, NE NE NE 36-48n-91w, is spudding. Wyoming Oil & Refining Company (D. L. MacDonald et al) has the other first report. Government 4, NW NW NW 31-48n-90w, drilling at 111 feet. Wyoming Oil & Refining Company resumed drilling in State 1, NE SE NE 36-48n-91w, at 1489 feet in the sandy shale. Two other operations drilling in the field are making routine progress. Bruce Teeter's Government 3, W SW SW 30-48n-90w, is drilling at 1532 feet. Arlt & Doyle's Government 1, SW SW SE 29-48n-90w, is drilling at 1091 feet in sandy shale.

Northern Wyoming

Considerable interest centers around Stock Oil Company's activities in the Garland field, Big Horn County. The Ohio Oil Company has one test in the process of finishing in the Byron field. Other operations are making good progress in the northern Wyoming oil fields.

Ohio Oil Company's Orson Vail 1, CNW NE 23-56n-97w, in the Byron field, Big Horn County, is installing pumping equipment to test production. On a swabbing test the well made 200 barrels in the first 24 hours from the Embar-Tensleep zone at 5009-5214 feet. Irene Lindsay 1, CNW SE 25-56n-97w, is drilling shale at 3453 feet.

Prospects of a good well were seen this week in Stock Oil Company's Allen 1-X, E NW SE 32-55n-97w, in the Garland field. Oil saturated cores were recovered from the Madison lime at 3900-4101 feet. This test originally was drilled as a directional hole to pump water in an effort to cave hole and shut off gas flow in Allen 1. Last week the company's Yates 1, CSL SW NE 33-56n-97w, made a good producer, completing for 65 barrels of oil per hour at 4206 feet.

Allen 1, SE NW SE 32-55n-97w, Garland, is shut down at 3838 feet awaiting mixing of heavier mud to pump through the drill stem down to 1200 feet where it met an obstruction. Earlier this week when lighter mud was pumped a temporary shut off was obtained, but as the gas pressure mounted the mud was blown out. With a heavier mud, operators believe the estimated 60,000,000 cubic feet of gas daily flow from the Embar-Tensleep at 3815 feet, can be mudded in and permit clean up of a fishing job, reconditioning hole and completion in the Madison lime.

In the old Kirby Creek field, Hot Springs County, Fruedenthal et al's Government 1, SE SE NE 21-43n-92w, is deepening after testing 4 barrels oil daily at 405 feet.

Mountain States Power Company's

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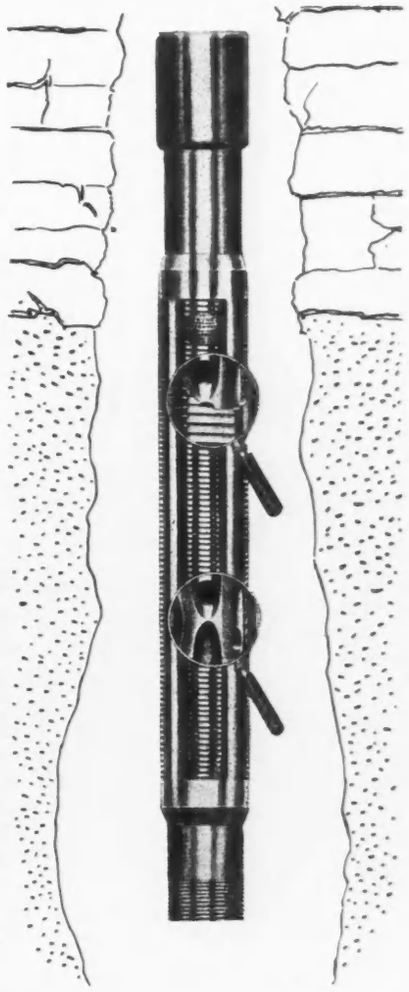

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2, NW NW SW 11-46n-99w, in the Little Grass Creek field, Hot Springs County, plugged back from 2901 feet to 2800 feet and then redrilled to 2860 feet where it is showing gas and water. It will plug back to the 5 3/16-inch string and perforate.

On Badger Basin in Park County, The Resolute Oil Company's State 1, CNW SW 16-5n-101w, is drilling at 6420 feet.

Tri-State Area

The first Mountain Fuel Supply Company well in the tri-state area was finished this week extending the South Baxter Basin field a ¼-mile southwest. W. T. Nightengale 1, SE NE NW 32-18n-101w, Sweetwater County, completed for a gas well, making 7,200,000 cubic feet daily in the Frontier sands between 2680-2754 feet.

On the Powder Wash structure, Moffatt County, northwestern Colorado, Mountain Fuel Supply's Carl Allen 1, NE SW SE 32-12n-97w, is coring at 3315 feet after encountering water and gas show at 3050-3100 feet. Georgia Kuykendall 1, NE NE SE 22-12n-100w, Hiawatha field, Moffat County, Colorado, is drilling at 2574 feet. State 1, NW SE 17-3n-24e, on the Clay Basin structure, Daggett County, northeastern Utah, is drilling at 5210 feet.

Eastern Wyoming

Drilling operations again report routine for the Lance Creek field, Niobrara County, eastern Wyoming. Continental Oil Company has three wells nearing completion. Otto Rohlff 7, CNW SW 32-36n-65w, is drilling at 3575 feet; Schuricht 4-A, CNE SE 6-35n-65w, is coring at 3756 feet and topped the first Sundance sand at 3659 feet; Emil Rohlff 1, SE NW 32-36n-65w, is drilling at 3427 feet.

Ohio Oil Company has two wells drilling in Lance Creek field. Elizabeth Lamb 1, CNE NE 5-35n-65w, a deepening operation from the Dakota at 3485 feet, is drilling at 3647 feet headed for the basal Sundance sands; Richards & Comstock 3, 220 feet from the north and 630 feet from the east lines of 32-36n-65w, is drilling at 2468 feet.

Argo Oil Company is waiting on rotary equipment to be released on completion of one of Continental Oil Company's wells drilling in the field for Elliott 5, CNW NW 5-35n-65w, which has derrick up.

An outside test on the west end of the Lance Creek field, Niobrara County, is the Holly Development Company and A. B. Cobb's Novak 1, NE SE SE 6-35n-65w, which is drilling at 166 feet.

Montana Fields

H. F. Patterson brought in a 200-barrel well in the north Cut Bank field, Glacier County, Montana, in an area of dry holes. One other well finished as a producer and one as a failure while two new locations were released. H. F. Patterson's Simero 1, CSE SE 22-32n-6w, swabbed 210 barrels during the first 24 hours with hole bottomed at 2860 feet. There was 1800 feet of oil in the hole when the well was drilled in and it probably will make 100 barrels daily when placed on the pump. R. C. Tarrant's Getty 6, SE NE SW 2-34n-6w, had 1600 feet of oil in the hole after getting Cut Bank sand from 2871 to 2889 feet. An average producer was brought in by Lon Crumley in Tribal 1 Allotted 112, SW SW 6-35n-2w, having 1400 feet of oil in the hole from 2945 to 2957 feet. Total depth is at 2965 feet in the Ellis. R. E. Lee's Alloted 1, 137, NE SW NE 26-33-6w, was a failure and is being plugged and abandoned. Water was encountered at 3260 feet in the Madison lime.

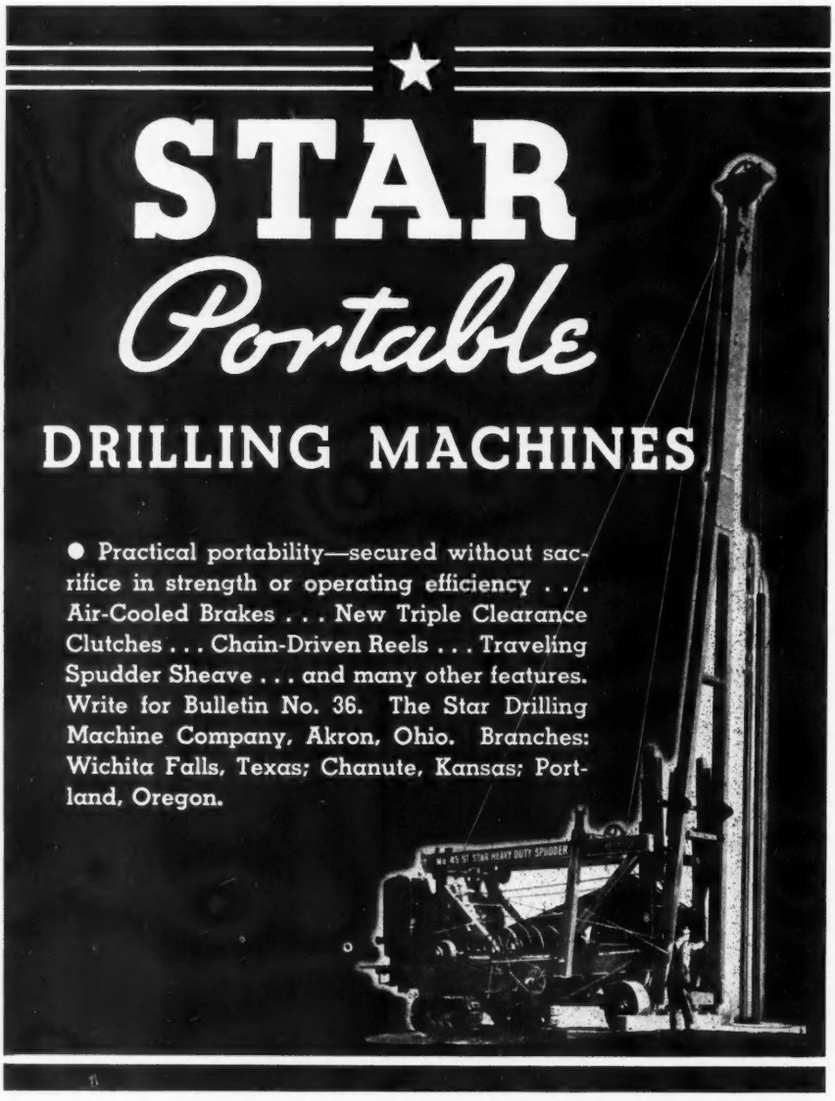
The two new tests for the field are: The Texas Company's Tribal 121, 3, center of Lot 6, -32-5w, and is rigging up. Montana Power Gas Company's Gaines 2, SW NW 6-33-5w, rig up.

Kevin-Sunburst

Two wells finished, one was placed on the pump and two new locations were released in the Kevin-Sunburst field, Toole County, northern Montana. Silver Oils' (Cook and Eddy) Haskett 2, SE SW SW 25-36-2w, will make a 100-barrel well. Oil rose 1000 feet in the sand at 1553-93 feet. Crumley's Shaw 10, NE CW NE 35-36-2w, made a Sunburst producer testing 8 barrels per hour or 150 barrels daily. Hole bottoms at 1610 feet. Gray's Aronow 1, NE NE SE 11-35-3w, was put on the pump making 160 barrels of oil daily at 1500-1555 feet.

Superior Oil Company's Halter 3, NW NE 21-35-2w, is rigging up.

Rig is up for the Clara Oil Company's Waite 9, SE SE NE 24-35-2w, the other new location.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MOUNTAIN STATES
Completions

MONTANA

Company, Well and Location	Init. Prod. Bbls.	Depth
GLACIER COUNTY (Cut Bank Field)—		
Kincheloe-Hanlon, State 2, lot 1, 36-33n-6w	150	2836
Montana Power Gas Co., Miller 2, nec sw se nw 32-33-5w	100	2935
Dan Whetstone, Tribal 1, 118, csw sw 1-32n-6w	80	3174
Stanley Gray, 1 Allotted 132, se nw 22-34-7w	*	3790
A. C. Bodman, Agt., Government 1, 078724 csl sw se 14-36-6w	*	3170

COLORADO

MOFFAT COUNTY (Iles Pool)—		
Texas Co., Iles Investment Co. 3, lot 4, 23-4n-92w	240	3560

WYOMING

CARBON COUNTY (Big Medicine Field)—		
Ohio Oil Co., Union Pacific-Johnson 3, cne se 23-21n-79w	2160	5582
BIG HORN COUNTY (Garland Field)—		
Stock Oil Co., Yates 1, csl sw ne 33-56n-97w	1560	4206

*Failures; †Junked; ¶Million cu. ft. gas.

Wildcat Testing

CANTUA CREEK PROJECT CORES SAND AT 8500 FEET

WEEKLY STAFF REPORT

Los Angeles.—Associated Oil Company completed the second producer, Williamson 3, in the newly discovered Williamson area, 1½ miles north of Lost Hills field in northwestern Kern County. This well was completed September 1, pumping 238 barrels in 6 hours of 13.0 gravity oil cutting 4 percent sand. Present production is 494 barrels a day of 13.4 gravity oil cutting 3.5 percent. Depth is 1668 feet, with 8⅝-inch water string cemented at 1516 feet, 170 feet of 6⅝-inch liner, including 146 feet perforated, landed at 1668 feet, and 3-inch tubing hung at 1442 feet. Location is 295 feet north of Associated's Williamson 2, completed at 1143 feet June 9 and pumping 170 barrels a day of 13.4 gravity oil cutting 25 percent. Williamson 1 was abandoned in April, 1935, after being drilled to 7856 feet without developing commercial production.

Western Gulf Oil Company's S. P. Land Company 3, wildcat at Cantua Creek, 20 miles north of Coalinga, is temporarily bottomed at 8500 feet for a second formation test of a 25-foot sand body cored near bottom. During the first attempt the packer failed to hold rendering the test ineffective.

Adam Test Showing

In the new Adam area near Santa Maria, R. R. Bush Oil Company's Hancock-Bush-Brown 1, Section 25-10-34, is being cored ahead at 4098 feet in Monterey (middle Miocene) shale with oil in the fractures. Until recently the showings were discouraging, due to the fact that this well correlates more than 1000 feet lower than the discovery well. Union Oil Company's Adam 1, located ¾ miles northeast. Top of the Miocene in Hancock-Bush-Brown 1 was cored at 3100 feet.

Vaca Oil Exploration Company's California Lands 1, Section 6-1n-21w, wildcat well on the Oxnard Plain 15 miles south of Ventura is being cored ahead at 2802 feet in diabase agglomerate. No oil showings have been encountered since the upper, heavy tar zone. The 8⅝-inch casing was cemented at 1865 feet.

Sovereign Oil Company's Advance Truck 1, Section 24-4s-13w, in the new Wilmington field, was cored from 3380 feet to 3690 feet in oil zone consisting of interbedded oil sand and shale. The hole is being reamed to cement 8⅝-inch water string at about 3380 feet. It is located adjoining Harbor Drilling Company's No 1, completed June 12, pumping 150 barrels a day of 17.6 gravity oil. Top of the oil sand in the Harbor well was cored at 3412 feet.

Bankline Oil Company's Dominguez Harbor Community 1, Section 34-4s-13w, in Wilmington, is being cored ahead at 3541 feet in sand and shale. Rumor that the sand is oil sand has not been confirmed. Well is located about 1 mile southeast from Harbor Drilling Company's No. 1.

General Petroleum Corporation's Terminal 1, Wilmington field, is being cored ahead in Miocene shale at 6140 feet. Coring will be continued to the top of the schist, with the possibility of finding an oil bearing basal conglomerate zone overlying the schist.

In El Segundo field, 15 miles southwest of Los Angeles, Ohio Oil Company's Gough 1 was completed September 1, flowing 250 barrels a day of 27.1 gravity oil cutting 0.2 percent. Present production is about 100 barrels a day by heads. Production is from a 33-foot basal conglomerate zone between the base of the nodular shale at 7322 feet and the top of schist at 7355 feet. The well is located in Section 7-3s-14w, 805 feet north and 439 feet west of the discovery well, Republic Petroleum Company's Republic El Segundo 1. This is the field's third producing well.

Superior Oil Company is building rig for Inglewood Extension 1, located 1000 feet south and 1000 feet east NWc 25-2s 14w, in the Fox Hills area 12 miles southwest of Los Angeles. This location falls about 1½ miles northeast from the south end of Playa del Rey and 1½ miles southeast from Eastern Oil Company's Eastern 1.

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
EL SEGUNDO—		
Ohio Oil Co., Gough 1	150	7375
HUNTINGTON BEACH—		
Associated, Miley-Keck 53	75	4055
D. D. Dunlap Oil Co., H. B. 1	200	4075
SANTA FE SPRINGS—		
Union, Alexander 33	110	4076
SEAL BEACH—		
Associated, Hellman 18	70	6605
RICHFIELD—		
Union, Chapman 34	130	3475
KETTLEMAN HILLS—		
Kettleman No. Dome Assn. No. 54-24H	55	8838
2-20J	1485	8874
65-20J	950	8850
Standard, No. 38-27J	1690	8235
BELRIDGE—		
Belridge Oil Co., No. 35-18	4560	8476
LOST HILLS—		
Associated, Williamson 3	495	1668
FRUITVALE—		
Magnet Oil Co., Anderson 3	155	4119
MIDWAY-SUNSET—		
General Pet. Corp., Balboa 61	190	4058
MOUNTAIN VIEW—		
Shell, Porter-Two 10	215	5916
MOUNT POSO—		
Shell, Vedder 27	470	1765
ROUND MOUNTAIN—		
Shell, Caldwell 7	560	1525

*Failures; †Junked; ¶Million cu. ft. gas.

Fruitvale Test Blows Out

Elbee Oil Company's Bittner 1, Fruitvale field, blew out for two hours and then sanded up when shot perforated 3805-3795 feet. The hole was cleaned out and an additional 40-50 feet will be perforated. Depth is 3805 feet, with 8⅝-inch casing cemented at 3620 feet and 258 feet of 6⅝-inch blank liner cemented on bottom. The Macoma marker was cored at 3152 feet and the base of the Etchegoin (Pliocene) at 3265 feet.

Belridge Oil Company's No. 35-18, North Belridge field, 40 miles west of Bakersfield, was completed August 29, flowing 3725 barrels in 18 hours of 32 gravity oil cutting 1.2 percent. On potential test the well flowed 4560 barrels a day oil and 18,457,000 cubic feet of gas through two 96/64-inch chokes with tubing and casing pressures of 380 pounds and 1800 pounds, respectively. Depth is 8476 feet, with 9-inch casing cemented at 7950 feet, 825 feet of 7-inch blank liner cemented at 8102 feet, and 744 feet of 4¾-inch combination liner, including 355 feet perforated, landed at 8476 feet and cemented through perforations at 8121 feet. The top of the first Wagon-Wheel zone (Oligocene?) was cored at 7960 feet.

Ventura Exploration Company's Sexton 1, Section 30-3n-22w, Ventura Avenue area, is being drilled ahead at 9385 feet in gray sand and shale. The 8⅝-inch casing was cemented at 7068 feet. No showings have been reported below 7068 feet.

West American Oil Company's Del Amo 1, wildcat southeast of Dominguez field, was deepened from 9000 feet to 9285 feet, and 1390 feet of 4-inch liner, including 150 feet perforated, was landed at 9285 feet and cemented through perforations at 9135 feet. Swabbing thus far has produced only water. The well was tested originally at 9000 feet, with 5¾-inch com-

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bination string landed at 9000 feet and cemented through perforations at 8495 feet.

West American Oil Company's West American 1, East Coyote field, 35 miles east of Los Angeles, is being tested for production, with the swab recovering oily mud and muddy fresh water. Depth is 6432 feet, plugged to 5835 feet, with 8⅝-inch casing cemented at 3565 feet, and 2290 feet of 4¾-inch combination liner, including 627 feet perforated, landed at 5835 feet and cemented through perforations at 5208 feet. The bottom portion of the hole is permanently abandoned.

MICHIGAN

WEEKLY STAFF REPORT

SURPRISE FLOW

Six locations follow Isabella edge producer

Mt. Pleasant, Mich.—J. V. Wicklund Development Company's Durnin 1, NW SW NW 23-16n-4w, Isabella County, initialed 1600 barrels of oil natural from Dundee lime at 3763 feet for the best completion in Michigan for several months. The comparatively high yield caused a major surprise to operators in view of the test's location. It is a north offset to a dry hole and offsets east a small pumper. The location was regarded as an edge test of the old Vernon field, where little development has taken place in two years. Most of the field was drilled in 1931-32.

Six new locations were reported as a result of the strike. However, it is doubtful that any important extension will be established in view of condemning dry holes virtually on all sides.

Failure of R. L. Stoddard's Soule 1, 9-11n-2w, Gratiot County, to show in Dundee lime probably will end exploration for the present in that district of central Michigan. Lime was logged at 3228 feet with water at 3229¼ feet. It was the third dry hole drilled in an attempt to establish commercial production indicated last spring by a Dundee showing on the Voorhees-Walters, Section 17-11n-2w.

T. F. Caldwell, Inc.'s Mutch 1, 17-19n-4e, Arenac County wildcat test, after a 60-quart shot and a 2000-gallon acid treatment was being tested this week at 2948 feet (top Dundee 2774 feet). Test swabbed 19 barrels net after acid.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GRATIOT COUNTY—		
R. L. Stoddard, Soule 1, sw se sw, 9-11s-2w	*	3229
Massigan Gas Corp., Shaver 4, c sw nw 4-10n-4w	¶6½	998
W. E. Ross, Chene 1, c ne ne 4-10n-4w	¶1½	1035
ISABELLA COUNTY—		
Thompson Bros., Smith 2, ne nw ne 3-14n-3w	110	3608
J. V. Wicklund, Durnin A-1, nw sw nw 23-16n-4w	1600	3763
LAPEER COUNTY—		
Smith Petroleum Co., Vaskowitz 1, sw sw se 10-9n-9e	*	1570
MECOSTA COUNTY—		
D. F. Jones, Bissell 2, c sw sw 32-13n-7w	¶12½	1310
Hal-Be-Oyle Co., Taggart 5, c sw se 11-11n-9w	¶7	1430
MIDLAND COUNTY—		
Pure Oil Co., Bond B-2, n½ ne se 12-13n-2w	60	3439
Bond A-8, n½ sw sw 7-13n-1w	70	3437
MONTCALM COUNTY—		
Wolverine Natural Gas Co., Bellows 1, c nw sw 10-12n-7w	¶48	1290
J. W. Leonard, Jr., West 6, sw se sw 2-10n-5w	110	3184
C & M Securities, Flint 2, ne ne sw 35-11n-5w	120	3190
MUSKEGON COUNTY—		
Muskegon Dev., Doll 1, sw ne se 8-9n-14w	¶1	1212
OGEMAW COUNTY—		
McClanahan Oil Co., Heintz 4, ne nw ne 24-22n-1e	40	2770
Webber Oil Co., Gamber 1, nw ne se 35-22n-2e	60	2640

*Failures; †Junked; ¶Million cu. ft. gas.

EDWARD HIGH PRESSURE DROP FORGED STEEL VALVES

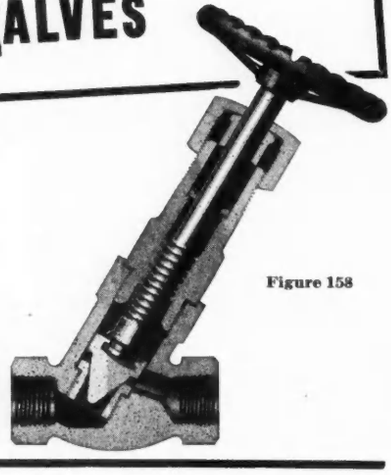

Figure 158

Specify this 6000 pound cold working pressure valve for use on your high pressure regulator settings, on which units you must depend to control the flow of high pressure gas and oil from your wells. Sizes ½" through 2".

MAINTENANCE ENGINEERING CORPORATION

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HOUSTON, TEXAS

EASTERN FIELDS

WEEKLY STAFF REPORT

Completions

OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
ASHLAND COUNTY—		
Dill & McFrederick, Flickenger 1	¶	2815
MEDINA COUNTY—		
Dill & McFrederick, Easton 1	¶	2634
E. Obermiller, J. Houck 1	*	2831
Ohio Fuel Gas, L. R. Tresman 1	*	2907
A. Grabensteler 1	*	2878
STARK COUNTY—		
Lyons & Co., Mary Hanson 1	*	3981
East Ohio Gas Co, B. W. Johnson 1	*	4139
Lyons & Co., Hiram Shaub 1	¶	4605
LORAIN COUNTY—		
William Dempsey, M. Synder 1	¶	2308
Schneider & Wyles, Middleburg Stone 1	¶	1541
SUMMITT COUNTY—		
Brooks Johnson, R. J. Gillie 5	¶	350
FAIRFIELD COUNTY—		
City Natural Gas, C. C. Coss 1	*	2150
CUYAHOGA COUNTY—		
Ohio Fuel Gas, Norris Crumler 1	*	3150
GUERNSEY COUNTY—		
Ohio Fuel Gas, Newton Lawrence 1	*	3322
KNOX COUNTY—		
Ohio Fuel Gas, Angie Barker 1	¶	875
E. R. Nethers 1	¶	2938
HOCKING COUNTY—		
Nelson Coal & Land, Kachelmacher 1	¶	940
MEIGS COUNTY—		
Meigs Dev. Co., Chas Peoples 1	*	2183
WASHINGTON COUNTY—		
DeVitt & Co., Francis Fisher 6	*	675
ATHENS COUNTY—		
Carpenter & Glazier, Jane & John Smith 12	*	88
Sperry Oil & Gas Co., Fred Mills 2	*	797
Leeper & Co., P. W. Grosvenor 12	¶	798
Carpenter & Glazier, Jane & John Glaizer 13	*	106
Robert & Lena Bean 17	*	....
Homer Burkhart & Co., Chas. Howell 1	*	1892
C. B. & C. T. Gale, Cales 6	40	933
HOLMES COUNTY—		
Ohio Fuel Gas Co., T. W. Strouse 1	¶	3370
Mose S. Miller 1	*	4089
Pure Oil Co., S. S. Troyer 3	*	3531
PERRY COUNTY—		
Zoecher & Dice, A. Franchville 12	5	522
Gardner Oil, Frank Lauman 3	¶	168
Albert McGrain, J. Oarrott 1	*	682
STARK COUNTY—		
Ohio Fuel Gas, E. Harmont 5	¶	4304
East Ohio Gas, Batson Bros. 3	¶	4385

KENTUCKY

OHIO COUNTY—		
Kentucky Natural Gas Co., J. E. Mitchell 12	15	....
Ekis & Co., T. Mitchell 1	*	....
Gealey & Co., W. Muffitt 2	*	....
Teller & Co., A. H. Medcalf 6	*	....
Rough River Corp., Nation Farm 6	15	....
McLEAN COUNTY—		
James C. Ellis, F. Howard 1	50	....
F. Howard 2	50	....
Lion Oil Co., O. P. Morris 1	55	....

*Failures; †Junked; ¶Million cu. ft. gas.

THE OIL WEEKLY REPORT ON IMPORTANT *Wildcat Tests*

ALABAMA

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 2, se nw sw 9-3n-29e, elev 191 ft, installing heavier rig, td 4002 ft.

MOBILE COUNTY—J. C. Prine's King 1, 4-1n-4w, pb to perf and test 2500-2600 ft, old td 3186 ft. Grand Bayou O&G Co.'s J. A. Stafford 1, sw sw 24-7s-3w, lcn.

ARKANSAS

CALHOUN COUNTY—I. P. B. Oil Corp.'s Henisberger 1, sw se 9-11-13, elev 207 ft, woc 110 ft.

COLUMBIA COUNTY — Burford & Co.'s (formerly East Prod. Co.'s) Kendrick 1, nw se 8-19s-18w, dr 2304 ft. J. C. Buckbee, Tr.'s Cumbie 1, 17-17-18, spd dr 1820 ft.

CLEVELAND COUNTY—Diffie et al's L. C. Ross 1, sw ne 1-11-11, woc 100 ft. R. L. Saxon's L. C. Tipton 1, sw ne 13-11-12, elev 207.4 ft, dk and mir.

CRAWFORD COUNTY—Citizens' Gas Co.'s J. W. Joyce , w½ sw 6-9-32, rur.

DALLAS COUNTY—A. F. Tarver's Wilbon 1, ne se 21-9-13, elev 204 ft, sd 2135 ft. Walter Lown's Atkinson 1, dk.

FRANKLIN COUNTY — Ozark Nat. Gas Co.'s J. E. Boner 1, nw nw 13-8-29, mim.

HEMPSTEAD COUNTY—Buffalo Oil Co.'s A. J. Lafferty 2, se nw 17-14-24, 5-in csg 2448 ft running tub to test, td 2452 ft. H. D. Easton et al's Conway-Tiller 2, sw sw 34-12-27, elev 251 ft, base chalk 740 ft, top massive anhydrite 2012 ft, dr 2028 ft anhydrite. Imperial Oil & Gas Products Co.'s Foster 1, nw sw 35-12-26, rur. Stewart Oil Co.'s Fee 1, se ne se 31-12-23, mim.

LITTLE RIVER COUNTY—M. E. Sanderson's Penning 1, ne ne sw 6-13-30, woc 168 ft.

LONOKE COUNTY—J. F. Russell's Gunter 1, se se 17-5-10, dk. Jno. Silver's Chambers 1, sw ne nw 17-2-27, elev 229.2 ft, arr set csg 1624 ft.

MILLER COUNTY—Joiner et al's Montana Realty Co. 1, ne nw nw 3-17-28, dr 4055 ft, elev 225 ft. McClanahan et al's Miller Lbr. Co. 1, sw sw 2-18-28, top Nacatosh 1432 ft, top anhydrite 4783 ft, dr 5010 ft. Montana Lbr. Co. 1, sw sw 2-20-27, ru and sd. Erwin & Leach's Red River Farms 1, 2-17-26, rur.

NEVADA COUNTY—Benedum & Trees Oil Co.'s Groves 1, sw sw 10-14-20, dr 912 ft.

OUACHITA COUNTY — J. F. Ferris' G. Dean 1, ne se nw 16-15-17, wodd, 2997 ft. Phillips Pet. Co.'s Arnold 1, ne sw 27-15-15, elev 207 ft, top rock salt 5630 ft, arr pb and perf csg at top Permian, td 5708 ft.

PULASKI COUNTY—A. L. Kieselman's Fee 1, se sw 2-1-13, sd 265 ft.

UNION COUNTY—Phillips Pet. Co.'s A. T. Morgan 1, 18-18-17, dry aband, td 4270 ft.

CALIFORNIA

FRESNO COUNTY

CANTUA CREEK—Western Gulf's S. P. L. Co. 3, 3-17-15, td 8500 ft in shale, running formation tester.

KERN COUNTY

MOUNTAIN VIEW—Associated's Di Giorgio 2, 3-31-29, dr hard sand 2370 ft. Mohawk Pet. Co.'s Earl Fruit 2, 10-31-29, dr sandy shale 2820 ft; Earl Fruit 3, foundation; Earl Fruit 4, lcn. Shell's Greer 1, 15-31-29, dr sandy clay 4584 ft.

RIO BRAVO—Associated's K. C. L. 1, 30-29-25, spud 9/3, dr.

GRAPEVINE—Associated's Tejon 1, 17-11-19, dr 2761 ft. 101 Oil Co.'s Tejon 1, 5-10-19, rur. Reserve Oil & Gas Co.'s Tejon 33-2, 33-11-19, td 4505 ft, pulling liner for another test.

LOST HILLS—Associated's Williamson 4, 2-26-20, lcn. Standard's United 1, 2-26-20, td 6887 ft, fsh.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*	owdd—*old well drilling deeper.*
‡—*salt water (completions).*	owpb—*old well plugging back.*
†—*junked and abandoned.*	pb—*plugged back or plugging back.*
¶—*million feet of gas.*	r—*reaming.*
abd—*abandoned.*	rog—*rig on the ground.*
bbls—*barrels.*	rur—*rigging up rotary tools.*
br—*building rig.*	rust—*rigging up standard tools.*
b.s.—*basic sediment.*	sd—*shut down.*
csg—*casing.*	sdtr—*sidetracking.*
co—*cleaning out.*	sg—*show gas.*
dd—*drilling deeper.*	si—*shut in.*
dk—*derrick.*	so—*show oil.*
dr—*drilling.*	so&g—*show oil and gas.*
fsg—*fishing.*	spd—*spudding.*
ft—*feet.*	sr—*straight reaming.*
hfw—*hole full of water.*	sw—*salt water.*
in—*inches.*	td—*total depth.*
lcn—*location.*	ur—*underreaming.*
m—*milling.*	wih—*water in the hole.*
mim—*moving in materials.*	wo—*workover.*
mit—*moving in tools.*	wocs—*waiting on cement to set.*
mot—*milling on tools.*	wosr—*waiting on standard rig.*
n, s, e, w—*north, south, east, west.*	
oih—*oil in hole.*	

SO. MARICOPA—E. A. Bender's Robinson 1, 14-10-23, dr brown shale 1086 ft.

POSO CREEK—C. C. M. Oil Co.'s Mon 3, 26-27-28, rig.

JASMINE—Cochran Oil Co.'s Bishop 1, 31-25-27, dr 4870 ft. Doyle Pet. Co.'s Quinn 1, 15-25-27, td 2892 ft, tested all water on pump, co.

DEVIL'S DEN—Den Pet. Co.'s Bates 1, 20-25-19, td 752 ft, bailed a little oil, sd.

ELK HILLS—Elk Hills Pet. Corp.'s No. 1, 14-31-24, sd 5935 ft.

ARVIN—General Pet. Corp.'s Arvin 1, 26-31-29, dr sandy blue shale 5941 ft.

NO. BELRIDGE—Rio Grande Oil Co.'s Layman 1, 18-28-20, td 2537 ft, fsh. Shell's Voight 1, 5-28-20, dr brown shale 1612 ft.

COMANCHE POINT — Tejon Ridge Oil Co.'s Tejon 1, 23-32-29, sd 2519 ft.

SO. BELRIDGE—Temblor Range Oil Co.'s No. 1, 24-28-20, sd 933 ft.

SAN EMIDIO—Texas Co.'s K. C. L. 3-11-49, 11-11-22, dr shale 9062 ft.

MISCELLANEOUS

ALAMEDA COUNTY—Seaboard Oil Corp.'s Johnson 1, 13-38-3, dr sand and shale 3027 ft.

HUMBOLDT COUNTY—Texas Co.'s Eureka 2, 22-3-1, td 4428 ft, underreaming.

KINGS COUNTY — Associated's Avenal 1, 35-23-17, dr brown shale 2570 ft. Herndall & Associates' Spreckles 1, 16-24-18, td 4201 ft, plug 1985 ft, co. Milheim Oil Corp.'s Resources 1, 20-22-22, dr 5412 ft.

SAN BENITO COUNTY—Associated's Murphy Ranch 1, 5-12-4, td 3900 ft, fsh.

SOLANO COUNTY—Amerada Pet. Corp.'s Hoppe 1, 22-4-2, dr hard brittle shale 5340 ft. Standard's Niel Anderson 1, 27-4-2, rig.

TEHAMA COUNTY — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-6, sd 8260 ft.

TULARE COUNTY—J. W. Alford's Williams 1, 28-16-23, rig. Trico Oil & Gas Co.'s Calif. Western 1, 7-23-23, td 3187 ft, to test upper showings; Callison 1, 27 21-25, (Tipton) rig.

MONTEREY COUNTY—Shell's Branch 1, 34-24-10, sd 8994 ft; Branch 2, rur.

SAN LUIS OBISPO COUNTY

CARRIZO PLAINS — Barnsdall-Foster Oil Co.'s Wreden 1, 24-28-17, sd 5083 ft; Huntington Crude Oil Co.'s MacBurney 1, 23-32-22, rig.

ARROYO GRANDE—Birch-Royer Oil Co.'s Patchett 1, 33-31-13, td 2115 ft, to set 12½ in casing. Blue Ridge Oil Co.'s Carpenter 1, 5-32-13, grade. A. T. Jergins Trust's Roderiguez 1, 5-32-13, sd 3654 ft; Roderiguez 2, foundation. Pismo Pet. Co.'s Scott 2, 5-32-13, rig.

HUASNA VALLEY—Union's Porter 1, 32-32-15, lcn.

PANORAMA HILLS—United Oil Co.'s Panorama 1, 2-32-21, dr gray shale 1540 ft.

SANTA BARBARA COUNTY

COAL OIL POINT—Bankline Oil Co.'s No. 2, permit 191, td 3880 ft, plug 3221 ft, redr.

LOMPOC—O. C. Field's Santa Rita 1, 11-7-33, dr shale 2063 ft. Top Row Oil Co.'s Spanne 1, dr hard shale. 752 ft.

BETTERAVIA—E. H. Moore's Union Sugar A-1, 25-10-35, dr hard gray shale 6387 ft.

CASMALIA—Todos Santos Oil Co.'s No. 1, 29-9-3, ready to spud.

SO. MOUNTAIN—Geo. L. Doody's No. 1, 13-3-21, dr shale 164 ft.

BARDSDALE—El Rancho Oil Co.'s Elkins 1, 9-3-19, sd 5050 ft. Layning & Jacobs' No. 1, sd.

OXNARD—General Pet. Corp.'s McGrath 2, 26-2-23, td 9384 ft, r. Vaca Oil Explor. Co.'s No. 1, 6-1-21, dr diabase agglomerate 2764 ft.

SESPE CANYON—Merchants Pet. Co.'s No. 1, 1-4-20, rigging cable tools.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, dr sand and shale 9384 ft.

SESPE CREEK—Wasibi Oil Co.'s No. 1, 35-5-19, dr brown shale 990 ft.

SOUTHERN CALIFORNIA

NEWHALL—Barnsdall Oil Co.'s Rancho S. F. 1, 26-4-17, dr sand and shale 3437 ft. Holbrook Pet. Corp.'s Newhall L&F Co. 1, 28-4-16, dr hard shell 2890 ft. Yant Pet. Corp.'s Yant 5, 1-3-16, td 2410 ft, m.

ARTESIA—M. T. Bernstein's Millard 1, 25-3-12, dr brown shale 5610 ft.

GARDENA—Crude Oil Drlg. Co.'s No. 1, 31-3-13, dr shale thin streaks shale, show on ditch 3325 ft. West American Oil Co.'s No. 1, 5-4-13, dr sand and shale 3890 ft.

TORRANCE—Oliver McDowell's McDowell 1, 35-3-14, dr hard shell 6920 ft.

PALOS VERDES — Pamaco Royalty Co.'s Burkhard 1, 2-5-14, rigged up.

ASCOT SPEEDWAY—Republic Pet. Co.'s Jordan 1, 24-1-13, rigged up.

ROSECRANS—Republic Pet. Co.'s Trust 1, 18-3-13, td 6141 ft, plug 6110 ft, to replug 5925 ft for test.

LAWNDALE—Signal Finance Corp.'s Woods 1, 10-3-14, dr conglomerate 7694 ft.

FOX HILLS—Superior Oil Co.'s Inglewood Ext. 1, 25-2-15, bldg rig.

EAST SANTA FE—Vanda Pet. Corp.'s Loftus Land 1, 4-3-11, dr gray sand 7304 ft.

DOMINGUEZ — West American Oil Co.'s Del Amo 1, 3-4-13, td 9285 ft, plug 8900 ft, ran liner, swabbing water.

ORANGE COUNTY—California Eastern Oil Co.'s Verde 1, 31-3-9, td 4750 ft, co. Mesa Oil Co.'s Mesa 1, 29-6-10, sd 2121 ft. Shell's Anaheim Sugar 3-1, 7-6-10, sd 3518 ft. West Coast Refining Co.'s Yorba 1, 25-3-9, rur.

SAN BERNARDINO COUNTY—Equitable Pet. Explor. Co.'s No. 1, 11-10-5, dr hard sand 2710 ft. Chino Pet. Corp.'s Abacherli 2, 12-3-8, td 1850 ft, testing shutoff. Tehama Pet. Co.'s Kraemer-Backs 2, 33-2-8, td 520 ft, wocs 12½ in on bottom; Pellisier 1, 4-3-8, dr hard shale 1206 ft.

FLORIDA

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 2, se se 17-24s-25e, elev 120 ft, arr test so and sg 5022 ft.

POLK COUNTY—Edward A. Hill, Tr.'s Polk Co. Lbr. Co. 1, nw nw 32-25s-25e, dk.

KANSAS

BARBER COUNTY — Sinclair Prairie Oil Co.'s Gentry 1, ne ne ne 1-33s-15w, co 3880 ft.

BARTON COUNTY—Brouk et al's Keil 1, se se ne 11-16s-15w, testing. Rose & Lants' Redetzke 1, ne nw nw 10-16s-11w, td 3108 ft, flow 1½ bbls oil per hour. Yernell & Carlson's Rath 1, ne ne ne 35-18s-12w, dr 370 ft. C. L. Price' Deutsch 1, nw nw ne 16-16s-13w, sd 2125 ft. F. E. Bailey et al's Hammeke 1, nw ne sw 12-18s-12w, sd 315 ft.

BUTLER COUNTY—Dalton et al's Miley 1, csw ne 17-27s-5e, sd 350 ft. W. P. Hildebrand et al's Farab 1, sw sw se 5-29s-6e, cel. Ed Solomon's Church 1, sw ne se 8-28s-5e, dr 100 ft.

CHASE COUNTY—Propp et al's Fromm 1, se se se 29-18s-9e, dr 890 ft.

CLARK COUNTY — Olson & Watchorn's Morrison 1, cse sw 17-32s-21w, dr 5300 ft.

EDWARDS COUNTY—Stanolind & Elwell's Donovan 1, cse se 14-25s-18w, fsg 4750 ft.

Royal Pet. Co.'s Krupp 1, nw nw se 18-24s-19w, brr.

ELLIS COUNTY — Jones & Shelbourne's Gunther 1, se se sw 9-11s-19w, dr 3320 ft. Bradley Oil et al's Penny Wann 1, se se se 13-15s-20w, rur. Empire's Samuelson 1, ne ne sw 31-11s-16w, ur 8-in csg 2820 ft. Bridgeport Mach.'s Ubert 1, ne ne nw 12-13s-18w, dr 3215 ft. Trigg et al's Armbrister 1, se se sw 6-11s-19w, dr 2975 ft. Lario O&G Co.'s Cress 1, ne ne ne 13-11s-17w, woc 346 ft. Champlin et al's Hadley 1, se sw ne 30-11s-17w, dr 2825 ft. Lario O&G Co.'s Marshall 1, nw se ne 36-11s-18w, dr 710 ft. Frank Hamilton et al's Sack 1, nw nw se 26-13s-19w, dr 3280 ft. Murphy Oil Co.'s Weisner 1, se se sw 12-14s-19w, ru. Ted Kerr et al's Koblitz 1, se sw nw 23-12s-18w, dr 292 ft. Wolf Creek et al's Polifka 1, sw sw ne 24-13s-18w, dr 2460 ft. Glick & McMorrow's Staah 1, sw sw se 6-13s-17w, mim. Simar Oil Co.'s Leiker 1, nw nw se 12-15s-18w, cor 1160 ft. Taylor et al's Emery 1, ne ne ne 23-14s-18w, cel.

GRAHAM COUNTY — Nook & Young's Hills 1, nw se se 19-10s-21w, dr 1295 ft.

GRANT COUNTY — Columbian Fuel Co.'s Gray 1, cse 3-29s-35w, rust, 3500 ft.

GREENWOOD COUNTY—Guy Scott et al's Pedroja 1, se ne se 6-26s-10e, dr 2130 ft.

HARVEY COUNTY—Harburney Oil Co.'s Scragg 1, nw nw se 24-22s-3w, so&g 3110 ft.

HASKELL COUNTY—Helmerich & Payne et al's Jones 1, cse 24-36s-24w, dr 2759 ft.

KINGMAN COUNTY — McBride's Wooldridge 1-A, sw ne se 16-27s-4w, ur 8-in csg 3440 ft.

LINCOLN COUNTY—Graham et al's Smiley 1, ne nw nw 26-10s-9w, rr.

LYON COUNTY—Becker Bros.' Rossillion 1, se sw ne 19-21s-11e, dr 2208 ft.

MARION COUNTY—Empire Oil Co.'s nw nw se 31-20s-2e, set 8-in csg 2708 ft, co. Barbara Oil Co.'s Hane 1, ne ne sw 4-18s-5e, td 2452 ft, hfw.

McPHERSON COUNTY—Hawkins et al's Ritikofer 1, ne ne se 2-20s-2w, dr 2780 ft. Skiles et al's Nuse 1, ne ne sw 18-18s-4w, cel.

NESS COUNTY—Newton Dev. Co.'s Tenny 1, nw nw se 19-18s-25w, dr 941 ft. Continental's Thompson 1, ce½ e½ sw 13-18s-26w, testing. Sayre Oil Co.'s Ryersee 1, cne se 34-18s-21w, dr 1120 ft.

PAWNEE COUNTY—Kessler & Their et al's Gustafson 1, sw sw sw 27-20s-16w, dr 4070 ft. Simpson Oil et al's Gates 1, sw sw sw 13-20s-16w, flow est 75-100 bbls oil, 5,000,000 cu ft gas, comp.

PRATT COUNTY—H. V. Elwell et al's Fay 1, nw nw se 15-27s-14w, rur. I. T. I. O. & Olson's Bolt 1, cnw ne 5-29s-11w, dr 3729 ft.

RENO COUNTY—Miller et al's Detter 1, ne se nw 28-22s-7w, sd 2849 ft. Pryor & Lockhart et al's Kerr 1, cnw 22-23s-8w, dr 2860 ft. Foraker et al's Hiett 1, se sw ne 34-24s-4w, sd 3452 ft. Continental & Wentz' Snook 1, ne nw se 10-22s-8w, pb 3200 ft, 80 ft wih and sso. Graham et al's Miller 1, ne ne se 36-25s-10w, cor 4362 ft. Clyde Pulse et al's Payne 1, sw nw ne 4-22s-7w, mim. L. R. Page et al's Mueller 1, cs½ sw ne 25-24s-5w, dr 2310 ft. H. F. Thomas et al's Greenwood 1, ne ne ne 6-23s-9w, dr 3704 ft. Fred Rust et al's Schmucker 1, se se sw 29-22s-8w, rur. Fred Phillips et al's Ray 1, sw sw sw 7-23s-8w, set 13-in csg 200 ft.

RICE COUNTY—Saco et al's Haxton Est. 1, nw nw ne 30-19s-8w, ur 8-in csg 2800 ft. Sage et al's Patton 1, sw sw sw 5-21s-7w, co 2965 ft. Allison & Fitzwilliams et al's Foby 1, nw sw nw 17-19s-7w, dr 390 ft. Jno. Stark et al's Doran 1, ne ne ne 29-20s-8w, set 10-in csg 1700 ft, sd. Buckley's Bailey 1, sw sw nw 19-20s-6w, rig. Charles Pet. Co.'s Speck 1, nw nw se 29-20s-8w, spd and sd.

ROOKS COUNTY—Lester & Dean's Burtt 1, se se ne 29-10s-2w, dr 1010 ft. L. C. D. Drlg. Co.'s Westhusin 1, cne se 11-19s-17w, sd 2420 ft. Hartman & Blair's Hall 1, nw nw nw 25-10s-17w, ur 5-in csg 3716 ft. J. A. Shoemake's Stebbins 1, ne ne sw 26-7s-17w, td 3590 ft.

RUSH COUNTY—Skeeles et al's Grumbein 1, sw sw ne 7-16s-20w, cel. Ralph Wixton et al's Gorham Est. 1, nw nw sw 35-15s-16w, woc.

RUSSELL COUNTY—Hartman & Blair's Johnson 1, nw nw nw 11-13s-15w, woc. Coralena Oil Co.'s L. A. Sellens 1, nw nw nw 17-15s-13w, dr 2040 ft. Armer et al's Maier 1, ne ne nw 20-15s-14w, dr 2785 ft. Equity Gas Co.'s Harbauk 1, nw ne se 19-13s-12w, ru. El Dorado Ref. Co.'s Scott 1, nw nw ne 17-13s-13w, sd 835 ft. Braden & McClure's Herbel 1, ne ne nw 35-14s-14w, dr 2660 ft.

SALINE COUNTY—Ryan Consolidated & Archer's Norton 1, ne ne ne 30-14s-2w, dr 3145 ft. James Brouk et al's Othelander 1, ne nw se 10-16s-13w, fsg 1445 ft.

SEDGWICK COUNTY—Wakefield et al's Howard 1, se se ne 25-25s-2e, set 6-in csg 2880 ft, sd 3025 ft. Lauck's McLean 1, csw se 1-27s-1w, dr 3700 ft. R. J. Wallace et al's Sheer 1, sw sw sw 22-27s-3w, dr 2180 ft.

SHERIDAN COUNTY—O. A. Roberts et al's Corrick 1, cnw 34-9s-26w, rot rig.

STAFFORD COUNTY—Lebow et al's Wolf 1, se sw nw 3-21s-12w, fsg 2335 ft. I. T. I. O. Co.'s Mellies 1, cn½ n½ ne 6-22s-11w, dr 2080 ft. Stanolind O&G Co.'s Evans 1, nw nw sw 3-23s-11w, dr 3590 ft. Skelly Oil Co.'s Kipp 1, se se ne 27-25s-14w, set 12-in csg 1040 ft.

SUMNER COUNTY—Matthews & Derrington's Berry 1, nw nw se 14-25s-1e, fsg 3780 ft. The Texas Co.'s Reed 1, ne se se 11-31s-1w, dr 4027 ft. Pryor & Lockhart's McCowen 1, ne ne sw 18-32s-1w, set 8-in csg 3738 ft. Orcott & Stewart's Newton 1, se se se 21-30s-2e, ru to dd. Rosespring's Rutter 1-A, cnw nw 21-33s-2e, spd. Tom Palmer et al's Hull 1, nw ne sw 9-32s-1w, dr 1290 ft. D. L. Husted et al's Evers 1, se se ne 27-31s-2e, sd 19 ft. S. J. Buffington et al's Payne 1, csw ne 10-35s-2e, dr 1025 ft.

TREGO COUNTY—Hall et al's Deines 1, se se se 12-13s-24w, dr 4186 ft. G. M. Pigott et al's Burkett 1, csw 15-11s-22w, set 8-in csg 3460 ft, rust. McNeely et al's John Lemke 1, nw nw sw 7-11s-22w, dr 3595 ft. York State Oil Corp.'s Gugler 1, sw sw sw 36-12s-21w, dr 3355 ft.

WOODSON COUNTY—Lewis et al's Riggs 1, sw sw sw 10-26s-14e, fsg 1250 ft.

SOUTH LOUISIANA

ACADIA PARISH—H. E. Dalton's Setting 1, Trilby prospect, 17-9s-1w, dr shale 1709 ft.

ALLEN PARISH—Humble's Bel 2, Bel prospect, 28-6s-7w, pb to 7254 ft from 9833 ft.

CALCASIEU PARISH — General Crude's Buhler 1, Buhler prospect, 30-8s-9w, dr shale 2975 ft. W. Lahey et al's Bass 1, Nibletts Bluff prospect, 9-10s-12w, ru. Union Sulphur's Wurmnest 1, South Lake Charles prospect, 9-11s-8w, abd 9250 ft.

CAMERON PARISH — Magnolia's Johnson Bayou School Land 1, Johnson's Bayou prospect, 16-15s-14w, ru. Pure's State Mallard Bay 1, Mallard Bay prospect, 22-13s-3w, dr shale 1385 ft.

EAST BATON ROUGE PARISH—Cavalier Oil Co.'s Vignes 1, ne of Hope Villa, 40-8s-2e, dr shale 5208 ft.

IBBERIA PARISH—Texas Co.'s State Fausse Point 2, Fausse Point area, 35-11s-8e, dr shale 5278 ft; same operator's State Vermilion Bay, in Vermilion Bay, 16s-5e, dr sandy shale 7598 ft.

JEFFERSON DAVIS PARISH — Shell's Sturdevant 1, South Roanoke prospect, 25-10s-4w, woc 2619 ft. Stanolind's Calcasieu National Bank 1, South Jennings prospect, 15-10s-3w, woc dr shale 9310 ft.

ST. BERNARD PARISH—John Cartwright's Nunes 1, e of New Orleans, 10-13s-9e, dr shale 6190 ft.

ST. MARY PARISH—Mike Hogg's Lawes Realty Company 1, east of Jeanerette, 30-13s-10e, comp 515 bbls daily 7210 ft. The Texas Co.'s Bayou Sale 1, Wax Lake prospect, 40-17s-9e, dr shale 1050 ft.

ST. MARTIN PARISH—Texas Co.'s Lake Mongouloi 2, Lake Mongouloi prospect, 14-10s-9e, dr shale 8378 ft.

TERREBONNE PARISH—Humble's Continental Fur 1, Castell prospect, 30-17s-14e, running detectors in hole at 10,254 ft.

VERMILION PARISH — Continental's Hebert 1, Abbeville prospect, 20-12s-3e, dr shale 11,508 ft. Stanolind's Fred Stovall 1, South Abbeville prospect, 89-14s-3e, dredging canal.

NORTH LOUISIANA

BIENVILLE PARISH—Bowles et al's Bank of Ringgold 1, ne ne 3-15n-9w, top first anhydrite 3250 ft, dr 3300 ft. DeSoto O&G Co.'s Dunn & Olson 1, n½ nw 15-16n-10w, setting surf csg. J. W. Leonard et al's Courtney Hrs. 1, se ne 5-17n-7w, elev 215 ft, top anhydrite 4858 ft, top massive anhydrite 5096 ft, dr 6287 ft. McDowell et al's Locke 1, ne nw ne 9-15n-9w, rur, elev 180 ft.

BOSSIER PARISH — Humphrey et al's Bulkley 2, 35-21n-13w, dr 1870 ft chalk. Triangle Drlg. Co.'s Skannal E-1, c s½ 23-17n-12w, elev 216 ft, top Travis Peak 5475 ft, arr perf 7-in csg set at 5560 ft and test in Travis Peak, td 5696 ft. United Gas Pub Serv. Co.'s Skannal F-1, 26-17n-12w, dr 3453 ft. H. M. Sneed's Nattin 1, 15-22n-14w, rur.

CADDO PARISH—Fallon Oil Co.'s J. E. Cupples 1, se ne ne 24-16n-13w, sd for csg 4001 ft. J. B. Hutchinson's Storey & Phillips 1, 26-16n-13w, arr ds test 1200 ft. Prairie River Synd.'s (J. E. Smitherman et al), sw sw 15-15n-12w, elev 152 ft, top Travis Peak 5845 ft, dr 6155 ft. Gulf Oil Corp.'s Hatcher 1, sw se 11-17n-15w, elev 269 ft, top chalk 1465 ft, top red beds 2589 ft, top second anhydrite 4635 ft, missed drill stem test 4941 ft, hd lime so, arr core again, td 4941 ft.

CATAHOULA PARISH — Adams-Louisiana Co.'s Goodpine Oil Co. 1, ne sw 12-6n-2e, spd.

CLAIBORNE PARISH — Martin & Langford's White 1, se se 26-21n-8w, sd 512 ft. E. T. Oakes et al's Patton Est. 2, ne ne 1-20n-5w, elev 357 ft, lub stuck drill stem, td 4987 ft. Sugar Creek Synd.'s Darrett 2, se sw 31-20n-5w, lub stuck drill stem at 6200 ft, td 8616 ft. United Gas Pub. Serv. Co.'s Taylor 1, 1-19n-5w, rur.

DE SOTO PARISH—J. E. Carlson et al's Garland 1, se nw 7-14n-14w, dr 2165 ft. Payne et al's Harris 1, 11-13n-14w, fsg 2200 ft. R. Kamon's Rascoe Est . 1, se nw 14-13n-13w, spd.

FRANKLIN PARISH—S. C. Jensen's Bailey 1, c se nw 12-11n-6e, sd 1853 ft sdy lime.

JACKSON PARISH—G. W. Zeigen et al's La. Cent. Lbr. Co. 5, ne nw 13-14n-2w, owdd, td 1770 ft.

MOREHOUSE PARISH — Henry E. Rondaeu et al's E. M. Clarke 1, ne se 10-20n-7e, elev 90 ft, sd 3781 ft.

NATCHITOCHES PARISH — Natchitoches Oil Co.'s J. S. Simpson 1, 12-7n-7w, dk. C. D. Morrison's Moffett 1, se se 19-1-10, sd 220 ft. Union Pet. Co.'s DeBlieux 2, 83-10n-7w, top chalk 2544 ft, sd cur titles, td 2552 ft.

RED RIVER PARISH—Conley et al's Long-Bell 1, ne ne 19-13n-9w, arr deepen, td 3200 ft.

RICHLAND PARISH—Gulf Oil Corp.'s R. R. Rhymes 15, nw se ne 32-17n-6e, elev 77 ft, top anhydrite 2936 ft, base red beds 6380 ft, dr 6470 ft sand (7500 ft test).

SABINE PARISH — Whitehurst et al's Whitney Corp. 1, c nw ne 8-9n-13w, hole clean, arr core 5375 ft. A. H. Tarver's Baker 3, ne nw 36-8n-12w, sd 5200 ft. Massa & Aiken's Whitney Corp. 1, recemnt csg 3150 ft, td 3300 ft.

UNION PARISH—Federal Pet. Co.'s Series B. U. No. 3014, 34-21n-3e, dr 6925 ft, shells; E. V. Series No. 3013, pb to 2150 ft, old td 4562 ft.

WEBSTER PARISH — W. D. Ambrose's Crichton 1, sw nw 36-18n-9w, elev 257 ft, massive anhydrite 5008-5300 ft, arr test 5471-5835 ft, 7-in csg 5835 ft. J. P. Evans' T. H. Johnson 1, sw nw sw 36-18n-9w, elev 329 ft, 7-in csg 5785 ft, tested 7 to 8 mil ft gas and sw flow 5788 ft, pb and perf csg 5586-5615 ft, tested est 40 to 50 mil ft wet gas, si for gauge, td 5788 ft. Ohio Oil Co.'s Bodcaw Lbr. Co. 1, c ne se

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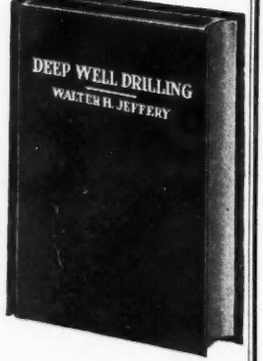


28-21n-10w, rur. R. M. Coyle 1, c ne se 22-21n-10w, mir. United Gas Pub. Serv. Co.'s Nixon 1, 22-21n-10w, spd woc 13⅜ in csg 350 ft. Magnolia Pet. Co.'s 23-21n-10w, dk and mir. R. W. Norton's Fee 1, 27-21n-10w, lcn. Woodley Pet. Co.'s C. G. Gray 1, ne ne 27-21n-10w, dk. R. R. Cox 1, sw sw 23-21n-10w, lcn. L. C. Cox

EAST TEXAS BORDER COUNTIES

HARRISON COUNTY—Overtex Oil Co.'s Platt 1, F. C. Baker sur, dr 4787 ft. Weiss et al's W. L. Rudd 1, Wm. Steele sur, lcn. Hanover, Bergdoll et als' Buchanan 1, Wm. McIlvain sur, fsh 4120 ft.

PANOLA COUNTY—Gulf's Pierce & Chesbro 1, J. H. Shahan sur, elev 233 ft, top Pecan Gap chalk 1414 ft, top Georgetown 2550 ft, dr 4102 ft, lime and shale. A. C. Glassell's Frost Lbr. Co. 1, Mary S. Potts sur, base massive anhydrite 4858 ft, so and sg in lime 4878-4910 ft, sr to bottom, td 4984 ft. Danciger O&R Co.'s J. W. Tatum 1, Alfred Bissell sur, sd 21 ft cur titles. Logansport P. L. Co.'s Rushing 1, Mannan Smith sur, elev 180 ft, so 2582-2600 ft, sd 2694 ft.

SHELBY COUNTY—Rubeling & Potter's O. H. Polley 1, Wm. Whisner sur, sd for heavier rig 4200 ft. Mulroy & Curtin's C. Hayden 1, D. F. T. Yordt sur, sd 2000 ft. Hinton & Long's D. H. Herton 1, J. Dowlin sur, sd 1856 ft. H. A. Stebbinger et al's Pickering Lbr. Co. 1, C. E. Henry sur, 5-in csg 4998 ft, tested est 5 mil ft gas and 48 bbls distillate per day, si for connections, td 5029 ft, oolitic lime.

MICHIGAN

ALPENA COUNTY—C. W. Teater's Nevins 1, 18-32n-6e, dr 4990 ft. L. V. Hemp's Potter 1, 36-32n-6e, dr 198 ft.

ARENAC COUNTY—Tamblyn and Martindale's Buffalo Land 1, 7-19n-3e, sd 2250 ft. T. F. Caldwell, Inc.'s Mutch 1, 17-19n-4e, test oil after shot-acid, 2948 ft td.

CLARE COUNTY—A. Hansen's Fee 1, 26-17n-5w, dr 3870 ft.

CLINTON COUNTY—J. T. Norris, Tr.'s Harris 1, 14-7n-2w, rig. Petroleum Exploration Co.'s Schneeberger 1, 11-5n-2w, rig. H. E. Bell's Arthur 1, 20-6n-1w, Traverse lime 2385 ft, so&w 2501 ft, dr 2690 ft.

GLADWIN COUNTY—C. L. Maguire, Inc.'s Havens 1, 25-18n-1w, dr 2000 ft. Olympia Oil & Gas Co.'s Barnes 1, 22-1w-20n, dr 1350 ft. D. F. Jones' Doan 1, 33-18n-1e, rig.

GRATIOT COUNTY — Red-Man Oil Co.'s Duckworth 1, 9-11n-3w, dr 400 ft. Ithaca Exploration Synd.'s Hart 1, 10-10n-3w, dr 500 ft. McPherson & Co.'s State Bank 1, 11-9n-1w, dr 2700 ft. May Pray's Wittig 1, 23-11n-1w, dr 1900 ft.

IONIA COUNTY—Terry Dale, Inc.'s Tew 1, 12-6n-7w, sd 4350 ft.

ISABELLA COUNTY—Hance and Robbin's Myer 1, 24-14n-4w, rig. H. E. Bell's Nilson 1, 16-13n-3w, dr 3019 ft. Pure Oil Co.'s Embrey 1, 34-15n-6w, dr 350 ft. McClanahan Oil Co.'s Cook 1, 15-16n-5w, rig.

KENT COUNTY—Michigan Oil Exploration Co.'s Croff 1, 35-7n-9w, dr 5360 ft. H. H. Hansen Synd.'s Grabow 1, 3-10n-9w, roc.

MASON COUNTY — Sylvania Oil Co.'s Campbell 1, 10-17n-15w, co 3340 ft. Dragoon Development's Young 1, 15-17n-15w, sd 3349 ft.

MECOSTA COUNTY—W. J. Bernier's Fitzgerald 1, 9-13n-9w, test so 3674 ft. Daily Crude Oil Co.'s Hoffman 1, 9-16n-7w, dr 3100 ft.

MISSAUKEE COUNTY — M. J. Ingold's Donley 1, 31-22n-8w, dr 1500 ft.

MONTCALM COUNTY—Daily Crude Oil Co.'s Weatherby 1, sw sw se 20-12n-9w, rig.

OTSEGO COUNTY—Harley Williams' Raae 1, 15-30n-1w, dr 1000 ft.

SAGINAW COUNTY — W. R. Bourough's Fortney 1, 29-11n-4e, dr 2600 ft.

MISSISSIPPI

BOLIVAR COUNTY—White & Jones' Ballou 1, ne ne 18-24n-7w, arr test 1680 ft.

CLAIBORNE COUNTY—Claiborne County Dev. Co.'s Ruth Hayden 1, 56-11n-2e, lcn. Claiborne O&G Drlg. Co.'s Crawford 1, 6-13n-4e, sd 1150 ft.

GRENADA COUNTY—H. T. Salter et al's Carpenter 1, nw se 5-21n-7e, elev 344 ft, dk and mir.

HINDS COUNTY—Chichester et al's Gerwin 1, sw nw 12-5n-1w, spd.

LAMAR COUNTY—Sun Oil Co.'s Scanland & Semms 1, sw ne 28-4n-15w, rur.

SIMPSON COUNTY—Goodwill O&G Co.'s Berry 1, 33-2n-4e, dk.

WILKINSON COUNTY—T. S. Stoneman et al's L. T. Ventress 1, 38-2n-3w, rur.

YALABOUSHA COUNTY—G. M. Langston et al's W. C. Bryant 1, ne sw 21-24n-6e, elev 276 ft, dk and mir.

MONTANA

BIG HORN COUNTY—E. A. Lammers & Son's Berhold 1, se se 6-1s-32e, dr 150 ft.

CARBON COUNTY—Round Butte Oil Co. 2, w ne se 3-6s-23e, dr 150 ft. East Bridger Oil & Gas Co. 1, s se se 23-6s-23e, dr 640 ft in Colorado shale.

CASCADE COUNTY — C. Leonard Smith Hines 1, se sw se 14-22n-2e, dr 215 ft.

FERGUS COUNTY—Emmons et al's 3, se ne ne 6-21n-18e, dr 420 ft. Judith Operating Co.'s Government 2, w nw ne 35-22n-17e, dr 2975 ft and carrying 8¼-in csg.

JUDITH BASIN COUNTY — Fletcher P. Hunt's Hobson 3, ne 10-14n-15e, preparing to lower 6¼ in cas to 1300 ft to shut off water.

PETROLEUM COUNTY—H. Clark Rowland et al's Kalispel 1, ne ne se 35-14n-25e, resumed dr at 50 ft after sd for water.

SHERIDAN COUNTY—Cheyenee Oil & Gas Co., Olson 1, ne ne 15-35n-53e, dr 1476 ft.

TOOLE COUNTY—Boyd Kyle's Wolsti 1, cse se 2-33n-1w, still ur 2519 ft.

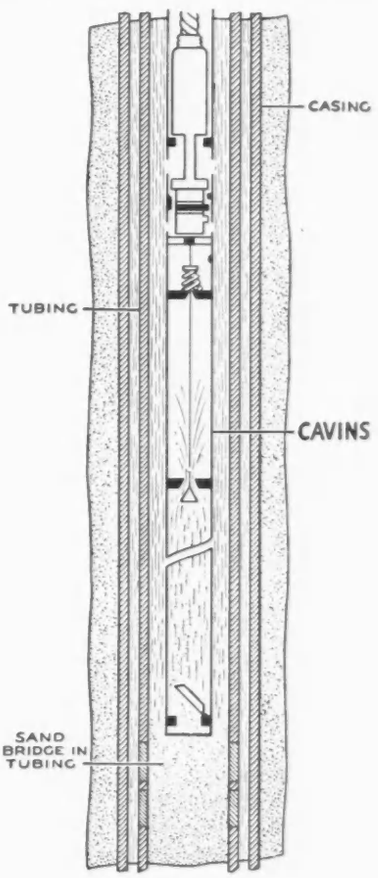
YELLOWSTONE COUNTY—R. C. Tarrant's Mosher 1, w sw ne 26-3w-24e, swabbed 100 bbls oil daily and 2,000,000 cu ft gas at 1010-1150 ft. Water broke in. Operators are drilling ahead for the Lakota.

NEW MEXICO

LEA COUNTY—Argo Royalty Co.'s B. T. Lanehart 1, sw se ne 21-25s-37e, elev 3071 ft, dr 2600 ft. Brown & Reynolds' Parcell 1, c nw se 8-21s-38e, mim. C. & G. Oil Co.-The Texas Co.'s Ellen Weir 1, c ne ne 14-20s-37e, elev 3564 ft, top anhydrite 1348 ft, td 4075 ft, testing for water source. J. C. Clower et al's W. H. Turner 1, c se se 29-21s-37e, machine. Barney Cockburn & Rowan-Nichols Oil Co.'s H. G. Mattern 1, c sw se 7-22s-37e, elev 3426 ft, used 2000 gals acid at 3727 ft, dd to 3746 ft, testing. Conoco & California Co.'s E. M. Elliott 1-A-15, se se se 15-22s-37e, elev 3354 ft, cem 8⅝-in csg, td 1142 ft; Elliott 1-A-21, c se se 21-22s-37e, elev 3338 ft, cem 7-in cas 3393 ft. Culberson, Erwin & Stovall's J. R. Stuart-Repollo 2, nw se se 10-25s-37e, mim. Emperor Oil Co.'s State 1, c sw sw 5-21s-35e, elev 3652 ft, dr 1225 ft. Gulf Oil Corp.'s L. M. Buffington 1, c nw sw 13-25s-37e, elev 3091 ft, tested sul w at 3601 ft, dr 3685 ft. S. J. Carr 1, c nw sw 3-24s-37e, elev 3267 ft, pb fr sul w at 3886 ft to 3625 ft, shot 290 qts nitro at 3521-3600 ft, then used 500 gals acid, swabbed dry and sdo; F. C. King 1, c sw nw 5-23s-37e, elev 3371 ft, td 3788 ft, shot 250 qts nitro 3696-3783 ft, then used 2000 gals acid and swabbed dry, dd to 3848 ft, testing. Jal Nat'l Gas Co.'s C. T. Bates-Humble 1, c nw sw 20-25s-37e, elev 3049 ft, dr 2775 ft. Harry W. Leonard et al's B. T. Lanehart 3, c ne nw 21-25s-37e, mim. Magnolia's E. O. Carson 2, c nw nw 33-21s-37e, elev 3471 ft, dr 2920 ft; John Scharbauer-Eidson 1, c nw se 29-16s-35e, elev 4014 ft, dr hard lime 4502 ft. Ohio Oil Co.'s Anna Walden 1, c ne ne 21-22s-37e, elev 3364 ft, so&g, cem 6⅝-in cas 3370 ft, td 3400 ft. Oil Well Drl. Co.-The Texas Co.'s L. L. Clardy 1, c se se 13-16s-36e, elev 3859 ft, top anhydrite 2092 ft, top salt 2355 ft, dry and abd 5065 ft. N. G. Penrose & Rowan-Nichols Oil Co.'s Will Cary-Humble 3, c se nw 22-22s-37e, elev 3364 ft, sd 1150 ft. Plains Prod. Co.'s J. A. E. Knight-Humble 1, c ne se 21-24s-37e, elev 3221 ft, flows 12 to 15 bbls oil per hr at 3463-3470 ft, testing; Knight-Humble 2, c ne sw 14-24s-37e, lcn; John Williams-Humble 1, c sw ne 34-24s-37e, elev 3191 ft, td 3512 ft, flows 47 bbls oil daily, sd for shot. Repollo Oil Co.'s J. M. Brownlee 1, ne ne sw 25-21s-36e, elev 3557 ft, lime pay 3850-3867 ft, completed after dual acid treatment flowing 65½ bbls daily. Republic Prod. Co.'s R. S. Crosby 2, nw nw sw 28-25s-37e, elev 3024 ft, dr 3250 ft. Samedan Oil Corp.'s S. B. Hughes 1, c ne sw 4-23s-37e, elev 3321 ft, dr 2700 ft. Skelly Oil Co.'s Ellen Sims 1-A, c sw se 3-22s-37e, elev 3300 ft, so&g 3522-28 ft, dr 3540 ft; F. S. Stuart 1, c ne nw 15-25s-37e, elev 3107 ft, shot 130 qts nitro 3364-3416 ft, testing. Stanolind O&G Co.'s P. J. Langley 1, c se nw 15-25s-37e, elev 3109 ft, sp. W. H. Street et al's Wood-Humble 1, near c se ne 22-22s-37e, elev 3355 ft, cem cas 250 ft. Sun Oil Co.'s B. T. Lanehart 1, c se se 20-25s-37e, elev 3042 ft, top anhydrite 971 ft, top salt 1145-2510 ft, top lime 2520 ft, pb fr 2790 ft to 2422 ft, sidetracked junk, td 3362 ft, shot 190 qts nitro at 3266-3362 ft, completed flowing 63 bbls oil initial. The Texas Co.'s E. D. Fanning 1, c se ne 4-24s-37e, elev 3293 ft, pb fr sul w at 3701 ft to 3656 ft, shot 300 qts at 3543-3634 ft; sd to pump; Jas. F. Black 1, c sw ne 21-24s-37e, elev 3220 ft, mim; J. D. Young 1, se se se 5-24s-37e, elev 3277 ft, mim. Talbot & Mullineaux's Quincy-Ricker 1, c se se 7-16s-36e, sp and sd.

Troubled with Tubing Bridges? Use The

CAVINS



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OKLAHOMA

ATOKA COUNTY—Malarnee et al's Ranch 2-A, cse se 35-2s-13e, fsg 4210 ft.

BECKHAM COUNTY—Mid-American Oil Co.'s Biscoe 1, sw sw sw 28-8n-22w, rig.

CADDO COUNTY—Wasteka Oil Co.'s Griffin 1, sw se ne 27-6n-10w, dr 6493 ft.

CARTER COUNTY—Carter Oil Co. et al's Leon Voorhees 1, cse sw 34-5s-2w, dr 8497 ft. John W. Hammond et al's Lile 1, sw se se 8-5s-1e, td 553 ft, sd. The Texas Co.'s Cathey 1-B, se ne ne 6-5s-1e, dr 4457 ft.

CLEVELAND COUNTY—H. R. Hollenback et al's Stinson 1, nw nw ne 17-9n-2w, rog.

COAL COUNTY—Sinclair Prairie Oil Co.'s Culver 1, ne ne sw 16-1n-8e, cor 4620 ft. Mitchell's Quiett 1, ne nw sw 35-1n-8e, swedging pipe. Continental's Kirby 1, sw se sw 23-1n-8e, dr 1058 ft. Continental's Breedlove 1, nw sw sw 24-1n-8e, dr 1190 ft. Carter's Warne 1, ne ne nw 31-3n-9e, dr 170 ft. Shell Pet. Corp.'s Hill 4-A, cnw nw 30-3n-10e, spd.

COMANCHE COUNTY — William Davis' Aetna Life Ins. Co. 1, se ne ne 22-2n-15w, td 160 ft, sd. L. D. Wise et al's Cones 1, se se sw 11-1n-10w, ru and sd.

COTTON COUNTY — Phillips Pet. Co.'s Warren 1, ne ne se 1-5s-13w, dr 1657 ft.

GARVIN COUNTY—Luttrell et al's Howell 1, nw se nw 34-1n-1e, sd. B. F. Lundy's G. C. Prince 1, ne ne se 32-1n-2w, td 2552 ft, sd. Ellison & Hammond et al's Selby 1, cnw nw 24-2n-3w, mim. Tidewater Oil Co. et al's Sturdevant 1, ne ne nw 28-4n-1e, cel and pits.

GRADY COUNTY—Art Holt et al's Ramsey 1, ne se ne 31-5n-8w, dk. Graham et al's Castleberry 1, sw se nw 8-5n-7w, td 1906 ft, woc. Ray Stevens Mays 1, ne ne ne 31-5n-8w, dr 3901 ft.

HUGHES COUNTY—T. P. McAdams & Barnes' Koch 1, sw ne ne 1-9n-10e, dr 3658 ft. Burke-Greis' Dunson 1-A, se nw nw 3-9n-8e, dr 2004 ft. Southern Oil Co.'s Buck 1, se ne sw 21-8n-10e, sd. Blackwell O&G Co.'s Vargee 1, se ne nw 29-9n-9e, sd 3474 ft, hfw.

JACKSON COUNTY—Burnham's Oliver 1, nw nw se 26-1n-20w, dr 2365 ft. Jackman's Fee 1-A, sw sw sw 27-1s-24w, dr 2190 ft.

JEFFERSON COUNTY — Red River Oil Co.s Trout 1, se ne ne 6-8s-7w, set 5 3/16-in csg 2142 ft. Pearson et al's Douthitt 1, ne ne ne 24-6s-9w, td 3280 ft.

KAY COUNTY—The Texas Co.'s Fulton 1, se se se 18-27n-4e, dr 2278 ft. Denver P. & R. School 1, se nw ne 13-26n-1w, dr 3880 ft. Robert Wilson et al's Dickerson 1, ne ne sw 20-29n-1w, dr 2120 ft. Max Kelley et al's Johns 1, nw nw nw 35-27n-4e, rig.

KIOWA COUNTY—Travis & Scott's Doyle 1, ne se sw 21-5n-17w, repairing mach. Argus Pet. Co.'s Osbourne 1, nw nw ne 9-7n-16w, set 8¼-in csg 587 ft. Rush C. Roberts et al's Funkhouser 1, se nw nw 25-7n-17w, dr 525 ft.

LINCOLN COUNTY—Amerada Pet. Co. et al's Zimmerman 1, sw sw ne 10-12n-5e, testing. Kemp & Continental's Lobaus 1, nw sw nw 21-17n-5e, rig. Skelly's Sporn 1, nw ne sw 21-17n-3e, rur.

LOGAN COUNTY—Helmerich & Payne's Hasler 1, nw nw se 14-16n-4w, rig.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, td 8583 ft. Riddle et al's Johnson 1, csw se 20-8s-2w, dr 3850 ft.

MARSHALL COUNTY — Helmerich & Payne's Taliaferro 1, nw se sw 26-5s-5e, dr 5043 ft.

McINTOSH COUNTY — Deickman's McIntosh 1, se se se 4-12n-17e, sd 1270 ft. Stanolind & Ramsey's Tiger 1, nw nw sw 13-9n-15e, sd.

MURRAY COUNTY — Hernsby & Jones, Sedler 1, ne ne nw 20-1n-2e, recementing surpipe. Power Oil Co.'s Lancaster Trust Co. 1, csw ne 10-1s-2e, td 256 ft, woc.

NOBLE COUNTY—Stanolind & Amerada's Gillham 1, ne se se 14-22n-1e, sd 4000 ft, wih.

OSAGE COUNTY—Norbla Oil Co.'s 1, ne ne ne 13-22n-6e, rig.

PITTSBURG COUNTY — Oklahoma Dist. Co.'s Beeler 1, ne ne sw 7-7n-14e, woc. Pendleton & Vaughn's Hobb 1, cse nw sw 7-6n-16w, td 425 ft, woc.

PONTOTOC COUNTY—Sands Pet. Co.'s Harvey 1, se se se 21-3n-5e, loc.

SEMINOLE COUNTY — Tom Phillips & Kimraw Drlg. Co.'s Chemperney 1, se se nw 7-6n-7e, td 2311 ft, woc. Rudco O&G Co.'s Butner 1-A, ne ne sw 15-9n-8e, sd 1950 ft. Kennedy's Bowlegs 1, nw nw se 3-8n-7e, loc.

STEPHENS COUNTY—Ed Parson's Olson 1, csw sw 21-2n-8w, cel. The Texas Co.'s Bohanan 1, ne nw nw 15-3s-15w, mach. T. M. McCasland's Hildebrand 1, sw se ne 1-3s-7w, dr 4415 ft.

TEXAS COUNTY — Allison & Barnhill's Bingley 1, sw sw ne 30-2n-18e cm, dr 750 ft.

TILLMAN COUNTY — Gulf Oil Corp.'s Wearmouth 1, se nw se 31-1s-18w, 4532 ft, woc. Bernheim's Tate 1, ne ne nw 16-1s-19w, td 2872 ft, woc. Smith's Hammill 1-A, ne nw nw 6-5s-15w, td 2425 ft. Eugene Skinner's Lynn Oliver 1, se se nw 22-1s-15w, sd 1000 ft. Beal & Toler's Magell 1, se se se 18-1n-16w, spd.

EAST TEXAS

ANDERSON COUNTY—Gulf Oil Corp.'s M. J. Ross 1 (54.7-ac), Robt. Erwin sur, Camp Hill area, elev 487 ft, top Georgetown lime 5452 ft, top Trinity series between 6472-6501 ft, top anhydrite stringer 7941 ft, coring shale and lime 8355 ft. Tide Water-Seaboard Oil Corp.'s J. N. Edens 15 (988.6-ac), Sam Snider sur, Cayuga field, elev 313 ft, top Georgetown lime 4619 ft, top upper Glen Rose 6040 ft, top anhydrite 6995 ft, top lower Glen Rose 7350 ft, showed 3,000,000 ft gas and dark colored listillate on dst at 7350-7414 ft, td 7570 ft hard lime, sd to run Schlumberger.

BOWIE COUNTY—Fay T. Chew and Brassett's Byron Barkinson 1 (90-ac), J. W. Parkham sur, 2½ mi n Leary, sp and sd. Ferguson and Hill's A. Y. Breckenridge 1, Nancy Dycas sur, 4 mi w Texarkana, sp and sd. Woodley and Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw Dalby Springs, elev 290 ft, Annona chalk 1665-2090 ft, sd 3665 ft.

CHEROKEE COUNTY—John G. Mayo et al's E. W. James-Pure 1 (50-ac), Jessie T. Jones sur, 4½ mi sw Rusk, lcn.

COLLIN COUNTY—Port Bolivar Co.'s O. G. Durning-Clarkston 1-A (140-ac), Wm. Creager sur, Pat. 1193, elev 722 ft, show gas 4039-70 ft, sd 4094 ft; A. Shirley 1 (50-ac), Gwynn Morrison sur, 1 mi e Anna dk.

DELTA COUNTY—W. S. McGee et al's Mrs. P. W. Miller 1 (52-ac), E. Spencer sur, 1 mi sw Cooper, top Red Beds 1370 ft, dr 1380 ft.

FALLS COUNTY—J. Edward Mills et al's Sam Grucholski 1 (40-ac), Dennis Herold League, 5 mi sw Kosse, elev 521 ft, Austin chalk 2765-2946 ft, Georgetown lime 3544-3825 ft, top Edwards lime 3867 ft, dr hard lime 4028 ft.

FRANKLIN COUNTY—Atex Oil Co.'s R. L. Jaggers 1, J. Humphreys sur, 1½ mi nw Winfield, elev 398 ft, Pecan chalk 1810-1850 ft, sd 3018 ft. Virginia Hudson et al's B. M. Patterson 1, E. Rice sur, 3 mi sw Hagansport, elev 411 ft, dk.

FREESTONE COUNTY—Fred R. Lovering et al's E. Bonner-Scott 1 (23-ac), H. Awalt sur, 7 mi n Fairfield, cem surface cas. Stanolind O&G Co.'s J. S. Cullinan 1 (365-ac), E. G. Rector sur, Cayuga area, rig.

GRAYSON COUNTY—Olson Drlg. Co.-Jas. H. Gardner et al's SW Life 1 (160-ac), J. C. Jamison sur, A-865, 3 mi n Pottsboro, elev 767 ft, top Sylvan shale 4870 ft, Viola lime 4901-5096 ft, td 5890 ft, lost drill pipe, pb to 4426 ft, sidetracked, jkd and abd. Port Bolivar Co.'s Creed Taylor 1 (160-ac), J. Fitzhugh sur, 3 mi se Gunter, dry and abd 4250 ft.

HENDERSON COUNTY—Wm. McDougal, Tr. et al's Elvira Price 1 (216-ac), M. Matthews sur, 3½ mi s Trinidad, elev 294 ft, sp and sd. S. Sparks, Keely et al's Theo. H. Barry 1, Aaron York sur No. 847, 5 mi s of Brownsboro, lcn. H. L. Parsons-Atex Oil Co.'s H. L. Wyatt 1 (140-ac), Simon Sanchez sur, 3½ mi sw Chandler, dr 3200 ft.

HOPKINS COUNTY—Empire O&R Co.'s J. E. Worsham 1 (150-ac), Alex O. Wetmore sur, Sulphur Bluff area, lcn.

HOUSTON COUNTY — E. R. Mount, Branch et al's Dr. P. S. Griffiths 1 (136-ac), Frank Johnson sur, 3 mi sw Crockett, rig. Robert Reagan-J. C. Barnett et al's A. B. Spence 1 (75-ac), J. F. Martin sur, ½ mi sw of Grapeland, pits dug.

HUNT COUNTY—Penn Oil Corp.-Elmer S. and Fox Wood's A. B. Manning 1 (57½-ac), Sally Owens sur, 5 mi ne Lone Oak, dk.

KAUFMAN COUNTY—E. G. Colton, R. P. Lester et al's Barrow Bros. 1 (40-ac), J. D. Taylor sur, 8 mi ne Elmo, elev 528 ft, top Georgetown lime 4194 ft, top Paluxy series 4773 ft, top upper Glen Rose 5165 ft, top massive anhydrite 5742 ft, fsh drill pipe 5968 ft.

LAMAR COUNTY—J. A. Forester et al's J. S. Woodward 1 (18¾-ac), J. W. Woodward sur, 1½ mi e by s of Minter, elev 402 ft, top Georgetown lime 2256 ft, Paluxy sand 3060-3144 ft, top anhydrite 3735 ft, base hard anhydrite 4075 ft, broken to 4105 ft, sd in Basal Trinity and may set cas for test, td 5129 ft.

NAVARRO COUNTY—Calto Oil Co.'s Etta Black 1 (266-ac), B. G. Balthorp sur, 2 mi sw Bazette, lcn for 6000-ft test, Ed W. Bateman and P. S. Groginski's S. P. Love 1, Lanmontine sur, 2 mi sw Corsicana, lcn for Trinity test.

RED RIVER COUNTY—J. S. Abercrombie Co.-Harrison Oil Co.'s Southern Pine Lumber Co. 4 (392.37-ac), D. D. Bruton sur, dr 500 ft. Annona O&G Co.'s Leo Roberts 1 (211.86-ac), Jas. Bankston sur, 2 mi ne Annona, elev 396 ft, Pecan chalk 40-380 ft, top sand 1423 ft, td 1522 ft, dry and abd. F. D. Jones et al's Monkhouse Bros. 1 (50-ac), John Ware sur, 10 mi n Clarksville, rig. Dale Sneed, R. H. Manning and Texfornia Co.'s Hooker-Hughes 1 (80-ac), MEP&P Ry. sur, No. 642, 6 mi sw Lydia, elev 307 ft, Pecan chalk 995-1302 ft, top Austin chalk 2018 ft, dr 2750 ft.

ROBERTSON COUNTY—J. Edward Mills et al's Tony Congelosi 1 (75-ac), Geo. A. Nixon sur, 3½ mi sw Hearne, dr 1450 ft.

RUSK COUNTY—John W. Merritt et al's J. A. Stallings 1 (47-ac), Thos. Uzzell sur, 2½ mi s Eatex field and ¼ mi sw Pleasant Grove, dr 1130 ft.

SMITH COUNTY—Carolyn and Hastings et al's Bennett 1 (80-ac), Robt. Walters sur, 3 mi ne Winona, sp and sd.

UPSHUR COUNTY—B. L. Watson et al's W. O. Irwin 1, D. R. Cannon sur, 3 mi ne Coffeeville, lcn.

SOUTH TEXAS

ATASCOSA COUNTY—Atascosa Trust's U. A. Doumch 1, 152-ac tr, blk 10, J. T. Russell sur No. 1222, 3 mi n Poteet, set 7 in cas 3460 ft, top chalk 3503 ft, td 4008 ft, pb to 3500 ft, acidized with 2000 gals, swabbed dry after acidizing, stood 10 hrs swabbed to btm and stood 50 ft fluid in hole, rec abt 3 bbls oil and fluid. Helvetia Oil Co.'s Susie Pratt 1, 176-ac tr, F. de la Garza sur No. 46, 1 mi nw Anchorage, sand and sandy shale 2249-2300 ft, set 7 in cas 2245 ft, swabbed abt 3 bpd 44 grav oil, td 3116 ft, pb to 3000 ft, set 800 ft of 4½ in liner, swabbed dry through tubg, pulling liner, will dd. W. B. Hinton's G. F. Weigand 1, Donavan sur 145, 14 mi e Campbellton, sd 910 ft.

BASTROP COUNTY—American Pet. Exploration Co.'s Martha Freytag 1-A, 50 ft e No. 1, sp. Paul C. Teas Clement Vinklarck 1, 100-ac tr, S. Millet League, 10 mi s Smith Villa, dr 3546 ft, sh.

BEE COUNTY—W. V. Bowles' C. Mengers, Sr. 1, W. Allen sur, 100-ac tr, 4½ mi w of Skidmore, dr 600 ft. Lonnie Glasscock's J. B. Allinger 1, 109.65 ac tr, John Ryan sur, 4 mi se Beeville, sd 304 ft, drop. Randon Oil Co.'s Handy Bros. 1, center nl and sl dividing blks 12 and 13, Howeth & Swiger subd on Handy ranch, Jeremiah Tool sur, ab 66, 6 mi ne Skidmore, bldg dk. Joe White and E. H. Jones' N. L. McKinney 1, 990 ft e of RR, 330 ft nel of Spencer Morris sur, 1 mi n Tuleta, bldg dk.

BEXAR COUNTY—Algra Oil Co.'s Edward C. Peters 1, sur 5, sec 4, Miguel Gotari sur, 13 mi se San Antonio, set 8 in cas 435 ft, td 440 ft, fsh bailer. American Gas Co.'s Oliver 5, 400-ac tr, M. F. Rodriguez sur, dr 3227 ft, lime. Carter & Ingersoll's Louis Mann 1, 83, 5-ac tr Stephen Jett sur 53, 3 mi s Von Ormy, fsh 1357

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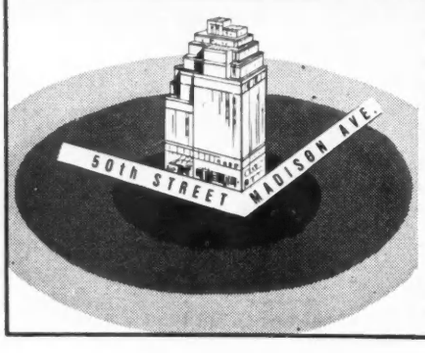

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ft. Delaware Dev. Co.'s E. H. Frederick 2, 380.4 ac tr, Rodriguez sur, ru prep sp. Dr. Lachelle's Minna Coreth 1, 284.04 ac tr, Adam Stafford sur No. 49, owdd, otd 1091 ft, co to dd. Mayers and Smith, H. E. Bass et ux 1, 160 ft sel, 1200 ft ne ne cor 73.5 ac tr, F. A. Ruiz sur No. 47, 2 mi se Von Ormy, lcn for 1100 ft Austin chalk test. Raymond Pulliam's E. J. Lamb 1, 617-ac tr, Francisco Farias sur 15, 4 mi fr Elmendorf, dr 2265 ft, had sh. W. R. Swearington's et al's Franz Woefler 1, 70-ac tr Jose de la Garza sur, ¾ mi ne Elmendorf, dr 320 ft sh. Thorman's A. L. Salm 1, 330-ac tr, Peter N. Hays sur No. 3, top lime 1792 ft, fsh 2050 ft, pulled ds in two, rec part of ds. R. P. Whitfield's Col. John Sweeney 1, GH&SA RR sur, 11 mi sw San Antonio, td 806 ft, sand and shale 784-804 ft, 5/8 in cas at 800 ft, sd. Woodward & Hardie's R. W. Devilbiss 1, John Devilbiss sur, 1 mi s Thelma, td 2248 ft, set 7 in cas 2204 ft, clearing hole to dd.

BLANCO COUNTY—E. L. Nixon's H. Hohenberger 1, J. McClendon sur 94, 320 ac tr, 3 mi se Blanco, sp.

BROOKS COUNTY—The California Co.'s E. Garcia 1, tr No. 3 Las Mestinas de Gonzaline gr, Alta Mesa dist, td 8022 ft, pb and perf 3020-28½ ft, well made water with scum of oil, cemented perf, reperf 3025-28½ ft, comp 75 bpd gas device, pb to 2500 ft, testing.

CALDWELL COUNTY — Barnett Pet. Corp.'s N. L. Strawn 1, 210-ac tr Pablo Martinez sur, ¾ mi w of Lytton Springs townsite, set 6⅝ in cas 1690 ft, td 1796 ft, comp IP 7 bpd on pump. Brown Dr. Co.'s W. J. Pope 1, John D. Rains sur, s mi se Lockhart, ru. Marts & Beavens et al's Mrs. A. Moody 1, 330 ft sw or most southwesterly nel, 330 ft nwl of 189-ac lse, S. Seal sur, 2 mi e Wheeling, sp. H. B. Starkey's (J. J. Elam et al) Francis-Brown-Cochran 1, W. F. Young sur, 3 mi e Luling, s sand with show of oil and gas 1742-47 ft, set 5 3/16 in cas on packer, completing when bailer blown out of hole, pulling cas to dd, milling out junk pipe. Taylor Ref. Co.'s Miears 1, 134 ac tr, N. Kelly sur, ½ mi w Dale field, td 2045 ft, showing oil in ch, top ch 2030 ft. Terminal Oil Prod. Co. et al's A. P. Doyle 1, 100-ac tr, Andrew Churchill sur, 8 mi sw Lockhart, D&A, 2008 ft, top ch 1737 ft, base ch 1926 ft, top Buda 1936 ft; A. P. Doyle 2, 250 ft wl, 300 ft sl of 100 ac tr in Andrew Churchill sur, 8 mi sw Lockhart, 1200 ft fr No. 1, dr 1635 ft hard ch. Texas Dev. Co.'s Rosanky 1-A, 50 ft w No. 1, 964 ac tr, J. S. Montgomery sur, sd 140 ft, drop.

CALHOUN COUNTY—Hiawatha Oil Co.'s John Roemer 1, J. J. Ogsberry sur, 8 mi s Port Lavaca, td 7112 ft, set 8⅝ in protection cas. Blanco Oil Co. & Al Buchanan's P. H. Welder, D. L. Palmer sur, 1 mi ne Heyser disc well, td 5700 ft, pb to 5300 ft, sdtr, prep test in sdtr hole at 5557-67 ft. Continental Oil Co.'s Austin 1, sec 12, blk "H" Pedro Garcia sur, 1 mi n of other heaving shale wells, Seadrift prospect, sec 11, ¾ in cas at 6598 ft, td 8825 ft, ds stuck at 8521 ft, set cas to btm, ran 2½ in tubg to 8521 ft, swabbed down to 8400 ft, cutting out 6 in cas, pb td 8521 ft, trying wash around 6 in cas. Humble & Plymouth's E. H. Welder A-3, Agaton Sisneros sur, sand 4868½-76 ft, dst in sand flowed oil 17 min ¼ in btm ch, 3/8 in top ch, 60 lbs pres, set cas at 4866 ft, woc.

DUVAL COUNTY—Frank Buttram's N. L. & L. Co. 1, sur 102, 5 mi nw Eagle Hill, sd 1165 ft for fuel. Cole Petr. Co.'s W. R. Peters 2, sur 795, 1 mi e of Lopez field, dr 155 ft. Frank J. Gravis' Gravis et al 2, sur 250, 10 mi sw San Diego, sd for water 2700 ft. Tom Graham's S. Sutherland 1, 170-ac tr, sur 188, 14 mi s of Freer, sand 2342-47 ft, sand 2459-65 ft, td 3309 ft, set 5 in cas 2500 ft, pb and perf 2342-47½ ft, comp 10,000 cu ft gas, wp 250 lbs, ½ ch; Sutherland 2, 330 ft sl and wl ne¼ sur 188, 3 mi e Peters field, sand 1938-42 ft, tested sw, dr ahead. Frank J. Gravis' Schallert 1-A, sec 555, Palangana salt dome, oil show in sand 2730-44 ft, dst 2730-44 ft, rec 500 ft oil, 300 lbs pres, 2½ min, set 7 in cas atop sand, swabbed down 750 ft off btm, would not flow, having liner trouble. Lipscomb & Daubert's W. R. Peters 1, J. Tigert sur 321, 2½ mi e Lopez field, sp. Mid Continent Pet. Corp.'s W. K. Peters 1, nw¼ 159, fsh 2692 ft. Pan American Prod. Co.'s J. F. Welder heirs 1-H, 160-ac lse in sur 103, one mi sw of Loma Vista, showed gas on dst of upper Loma Novia sand, dr to 3006 ft, pb to 2866 ft, set 7 in cas 2822 ft, bad cement job, cement cas for 4th time, swab dry through cas, bridge of 100 ft in hole, trying to dislodge, wo spudder to co bridge. Rogers & Rogers' Valdez 1, 80-ac lse, Mesquite gr, sd 250 ft. Shell Pet. Corp.'s J. M. Taylor 1, nw/4 sur 214, 3 mi sw Seven Sisters field, dst 2847-68 ft, rec 120 ft brackish muddy water no pressure, slight show of gas, ⅛-⅜ in chokes, 10 min, td 3156 ft, running steel line measurement. Shell Pet. Corp.'s J. F. Welder heirs 1-B, 79.3-ac lse in sur 69, 1¼ mi n Loma Vista field, 3 attempts to dst in sandy shale 2863-74 ft failed, td 3242 ft in shaley gray water sand, run electric formation test, washing to btm, pb td 2874 ft in sh, set cas, bad cement job, prep recement. E. R. Thomas et al's Atlee Parr 3, 12.59-ac tr, sur 26, sand 4002-10 ft, set cas on btm, perf, swabbed dry, dr ahead 4600 ft, cemented hole to sdtr.

EDWARDS COUNTY—M. R. Phillips Turney 1, sec 164, Wyatt sur, dr 560 ft, sh and lime. Plateau O&G Co.'s Mrs. R. L. Hatch 1, J. W. May sur, sec 66, HE&WT RR sur, dr 800 ft.

FRIO COUNTY—Amerada Pet. Corp.'s C. A. Miller 1, 394.3-ac tr in B. Saltello sur No. 323, Pearsall, set 7 in cas 5431 ft, top Austin chalk 5421 ft, td 5721 ft, shot with 630 qts, flowed 348 lbs in 20¾ hrs through bridge, still co.

GOLIAD COUNTY—The California Co.'s Langrebe 1, 100-ac tr in John Hancock sur, 8 mi n Goliad, dst with seat at 4797 ft, rec 296 ft 41.5 grav. oil, 95 lbs pres 6 min, cored ahead to 5060 ft, pb and set cas abt 4850 ft, woc. Felmont Corp.'s W. O. Maetze 1, 1866 ac tr, Gertrude Baerrera sur, 6 mi ne of Goliad, td 5660 ft, washing down near td, top Hockleyensis 4204 ft, top Diabel 4922 ft, top Cockfield 5080 ft, top Discorbis 5142 ft. Zeni Oil Co.'s M. Lutenbacher 3, sw¼ blk 25, Goliad Town sur, 2 mi s Goliad, dst 4150-60 ft, slight gas flow, top Pettus 5356 ft, core recovered btm 6 inches showed sandy shale, attempted to blow out, set 7 in cas 5352 ft, cemented with 560 sacks, dr plugs, blew out again, killed, cored ahead to 5639 ft, lost hole, sdtr, set liner to 5584 ft. sand 5592-99 ft, fsh job, lost cutting tool, sdtr, td 5599 ft, wash out liner, setting new liner and cemented.

GUADALUPE COUNTY—Pat Armstrong's M. Tiller 1, 10-ac tr, J. G. King sur, 2 mi ne Kingsburg, sd 700 ft. Clark & Weinerts' W. O. K. Anderson, td 2517 ft, set cemented 6⅝ in cas 1839 ft, set 680 ft in 4 in perf liner, pulled tubg, rerun liner, D&A. T. H. Coulter's August Engelke 1, 54.1-ac tr, Harriett Cattle sur, ru and sd. Eickenroht & Gallagher's O. H. Johns 1, 840-ac tr, Green DeWitt sur, 3 mi sw South Darst Creek, td 3204 ft, td in Georgetown, set 6⅝ in cas at 2700 ft, top ch 2920 ft, top Eagleford 5081 ft, top Buda 3122 ft, top Del Rio 3184 ft, top Georgetown 3200 (?) ft, ran new packer, sd. F. H. Gallagher's Katie Lay 1, on 20-ac lse, J. K. Davis sur, 800 ft e Stagal & Ramona crevice wells, ru. Long & Ross' Ed. Feliz 1, 1½ mi s fr New Berlin 75-ac, V. Duran sur, dr 200 ft. Riddle Oil Co.'s E. Nolte et al, J. Sowell sur, 6 mi e Seguin, 6⅝ in cas 1780 ft, td 1845 ft, ch, swabbed down to 1400 ft, small show, pulled cas in two at 1410 ft, sidetracking.

HIDALGO COUNTY—Gulf States Oil Co.'s John Engleman 3, lot 3, blk 70, Las Mestinas gr, td 6812 ft, killed, recemented, ran sw and distillate from sand 6688-96 ft, pb, gun perf 6686-91 ft, comp est 8 bpd of distillate, Maxwell-Mundy-Morris' Southland Dev. Co. (Hidalgo County Water Control & Impr. Dist.) 2, lot 1, blk 20 Alamo Land and Sugar Co. sur, Alamo gr, 4 mi s Alamo, td 731 ft, pb, tp 650 ft, perf 638-542 ft, sdtd 679 pumping, making slight show of oil 640-45 ft. Pantana Pet. Corp.'s (McCollum Exploration Co.) R. W. Harding 1, 850 ft w of old Quintana Engleman 1, in lot 11, blk 94 in Mestinas gr, Missouri-Texas Land & Irrigation subd, dr 5490 ft. Union Sulphur Co.'s ARGL No. 7, tr No. 2309, blk 59, 400 ft e Mercedes field, td 7608 ft, 5 in cas 7530 ft, recemented liner, dr out to 7588 ft, reperf, sd woc; ARGL&L Co. 10, blk 50, tr 2418, N. Capisallo dist, coring 7790 ft, sh.

JIM HOGG COUNTY—Eastland Oil Co.'s (was J. J. Cosner) E. Vela heirs 1, 330 ft sl and el of blk 5, Clark & Cowden subd, sur 572, sh 1, El Peyote gr, lcn. Theo Hicks et al's Kohler 1, blk 9, Noriscitas gr, 3 mi nw Hebbronville, td 80 ft, set sur cas, dr plugs. J. H. Meek's Martinez 1-A, sur 623, dst 3010-17 ft, show 150 ft plo, 47 grav, 25 min, set 7 in cas 3009 ft, dr plugs show sw, recemented, swabbed abt 100 bpd of 47.4 grav oil, comp 100 bpd, may rework later. Sam Payne's R. Holbein 1, center blk 58, sec 3, sh 3, Holbein subd, Las Animas gr, ru. Locke Purnell & Gifford Oil Co.'s Gallagher 1, blk 128, Pippin subd, Randado gr, sp; C. O. Gallagher 1-B, 40-ac tr Randado gr, blk 190, Pippin subd, lcn.

JIM WELLS COUNTY—Camp Drlg. Co.'s Jane Schallert 1, 1134.83-ac tr, sh 3-A, Las Presenenos de Abajo gr, 2½ ml w Bentonville field, set sur cas 600 ft woc. Gist & Graddy's B. W. Owens 1, Poitevant sur, nw Bentonville field, sd for repairs 4900 ft; F. Bennett 1, 330 ft sl and el lot 87, sec 76, Holdeman subd, 2 mi w Premont field, dr 1587 ft. La Jita Corp.'s Hayden et al's 1, ne/2 of sec 19, Richard King Farm lots, ru. Tom Graham's James P. Luby Est. 1, 330 ft nl, 2092.5 ft el and wl of sh 4, Los Presnos de Abajo gr, 5 mi ne Alice, one mi w Bentonville townsite, ru. Putnam et al's Canales Est. 1, center blk 32, Mosser subd of Canales est, set 380 ft sur cas. Stanolind O&G Co.'s F. L. Blundell 2, sw/4 of sec 16, 160-ac tr, King Ranch lots, td 5425 ft, set cas 5325 ft, making potential.

KARNES COUNTY — Luling O&G Co.'s Wheeler Holmes 1, 990 ft nel, 330 ft nwl 100-ac tr, Carlos Martinez sur, 2 mi s Green, set sur cas 60 ft, woc.

KIMBLE COUNTY — Wilcox O&G Co.'s Hugh Spiller 1, sec 15, Brooks & Burleson sur, dr 1613 ft.

KLEBERG COUNTY—Clark et al's Kivlin 2, Fernando Creek, blk 8, sec 39, KT&I subd, td 2142 ft, 7 in cas 2124 ft, sand 2124-34 ft, tested sw slight oil show, sd orders.

LA SALLE COUNTY—Roy Shipman's Mrs. T. A. Coleman 3, 500-ac tr, James sur, sec 514, dr 2150 ft.

LEE COUNTY—James E. Pederson's C. A. Turner 1, 1860 ft nl, 150 ft el of 65 ac, David Hudson sur, 1½ mi se Tanglewood, reinstated owwo, td 6560 ft.

LIVE OAK COUNTY—Barber & Miller's W. M. Blanks 1, 850-ac tr, AB&M sur 103, sd 650 ft. Dirks Bros.' Atkinson 1, 2305 ft nl, 330 ft wl of 350 ac tr, L. Ayers sur in nw cor of county, sp. J. H. Durbin's Marbach 4, 429 ac tr, Stephen Hays sur, 2½ mi sw of Whitsett, dr 420 ft. R. H. Feltner et al's Sanger Ranch 1, w ½ of GC&SF sur 391, dr water well. O. W. Killam's Schultz Live Stk. Co. 1, 628-ac tr, John Hefferman sur, n of Three Rivers, dr 1012 ft. Simmons O&G Co.'s Clara McGriff 5, Louis Romaro sur, 1 mi n of Oakville, dst 2116-35 ft, show 11 frbls sw and show of oil and gas, dst of sandy sh 2787-91 ft, show 260 lbs gas pres, Pettus sand 2792-2802 ft, sh 2802-04, sand 2804-16 ft, dst 2792-2803 ft, show 250 lbs pres, ¼ ch, 5 min, cored ahead to 2812 ft, dst 2804-12 ft, show 225 lbs pres ¼ in ch, 3 min, cored ahead 2816 ft, still gas no water, set 5½ cas on btm, dr plugs and will perf.

MAVERICK COUNTY — Rio Dev. Co.'s Winchester Kelso 1, 297-ac tr in sur 2, 3 mi ne fr Eagle Pass, sd 307 ft.

McMULLEN COUNTY — John Camp's Byrne Est. 4, G. Pittuck sur, 3 mi w Calliham, dr 795 ft. Comet Oil Co.'s H. L. Lark 1, blk 110, Lark subd E. W. B. Scrugham sur, td 1028 ft, set 7 in cas 1023 ft, comp 20 bpd on pump. Coursey et al's H. L. Lark 1, n½ of blk 101, E. W. B. Scrugham sur, ½ mi n Calliham sand 1043-50 ft, set csg. bad cement job, recemented cas. Hagan Stewart Oil Co.'s J. J. Kunz 1, 350-ac tr in N. Hely sur, sp. Hill et al's J. Richardson Est. 1-A, dr 2650 ft. E. M. Jenkins & Floyd's Raymond Plosczyk 1, blk 1, James Garner sur, td 1200 ft, prep dd. Magnolia Pet. Co.'s Mary Teal 1, Wm. Kukendall sur No. 4, 4 mi sw Crowther, dr 2335 ft. E. D. Mathis' Wm. Fahler 1, s 500 ac of Fahler 1009-ac tr, C. Pittuck sur, 5 mi w Calliham, D&A 810 ft and sand 816 ft. C. C. Shumway's Shiner Ranch 9, ne¼ sec 51, Shumway subd of

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Shiner Ranch, 9 mi s of Wetz, ow formerly abd 2014 ft, perf 1568-1610 ft, show sw, D&A. Ike Taylor's H. L. Lark 1, lot 72, Lark subd, E. W. B. Scrugham sur, between Jacob and Callihan fields, td 600 ft, well blew out, sprayed gas, ran wild, pumped heavy mud after blow out, dr relief well; W. S. Red 1, nw cor Geo. Pittuck sur, sp.

MEDINA COUNTY — Thomas & Rife's Amelia Zadich 1, S. C. Lubbock sur 504½, se cor county, top Austin chalk 2646 ft, base ch 2929 ft, top Buda 2995 ft, dst 2998-3070 ft, rec 2 jts mud, odor oil, no pres, D&A 3333 ft. G. W. Whitting et al's Honde Nat'l Farm Loan Ass'n 1, 24-ac tr, sec 214, 5½ mi se Honde, sd 671 ft, top Serp 505 ft, oil show 662-671 ft, dr 1096 ft.

NUECES COUNTY — Barnsdall Oil Co.'s Weil 1, lot 5, McBride Partition between Saxet and Corpus Christi fields, set 10¾ in cas 1200 ft, woc. Bunte O&G & Woodley Pet. Co.'s Margaret Kelleys 1, sec 4, Range 7, H. L. Kinney sec, 4 mi se Clarkwood, lcn. J. T. Cox's John Harney, sh 11, Harney lands, 2½ mi se Callihan, dr 4100 ft. Gem Oil Co.'s J. T. Smith 1, in center of lot 22, blk 47, abt ¾ mi n of disc well, sd for water 3000 ft. W. L. Hinds, C. Driscoll Sevier 1, 223.5 ac tr sec 60, Pauls subd of Driscoll Ranch, 9000 ft nw disc in Clara Driscoll field, blew out while making core 3216-20 ft, ran wild several hours, bridged over, junked and abnd. H. M. Reed's R. M. Roper 1, lot 12, blk "E", sec 108, Paul subd, Driscoll Ranch, td 3909 ft, top sand section 3770 ft, saturated oil sand 3888-3908 ft, td in sw sand, comp 8½ bph ⅛ ch, tp 600 lbs, cp 900 lbs.

REFUGIO COUNTY—Benedum & Trees' R. H. Welder 1, commence west corner Friedline pasture, thence n 53 degrees east 4443 ft to location in Juan Pabadano sur, ab 49, reaming 6544 ft. E. W. Price et al's R. H. Wood 1, 600 ac lse in Dona Anasticia Reojas sur, ½ mi n Woodsboro and 4 mi e Refugio field, D&A 6106 ft.

SAN PATRICIO COUNTY—Acreage Royalty, Ramsey Est. 1, W. B. Giddings sur, blk 1, 80-ac tr, 6 mi s Odem, abnd lcn. Atlantic Oil Prod. Co.'s Maryland Trust Co. 1, blk 17, B-C subd, 1150 ft sw disc well, set whipstock at 4904 ft sdtr ds stuck in sdtr hole, sand 6541-47 ft, saturated section 6533-55 ft, perf 6541-47 ft, comp 146.52 bbls 12 hrs 3/16 ch, cp 2175 lbs, tp 1250 lbs. Callaway-Crosby & Porter's White Point Dev. Co. 1, 330 ft el, 2992 ft sl 438 ac tr Seguin sur 4 and 5, ab 247, sand 4900-15 ft, dst 4899-4915 ft, rec 510 ft oil, 37 lbs pres, 5 mni, clearing titles. Eleanor Oil Co.'s Wm. Kline 1, lot 5, blk "C", Coleman-Fulton Pasture Co. subd, 2½ mi se of Gregory, dr 3010 ft.

STARR COUNTY—Sam Adam's Garza 1, Military Reservation, sh 20A porc 80, J. of Reynosa, 5200 ft sw Rio Grande City field, dr 310 ft, sh. J. F. Anderson's Yzaguirre 1, 139-ac tr, porc 79, coring 2701 ft; M. M. Garcia 1, sh 196, and sh 199, porc 90, td 1171 ft, gas sand 1080 ft, 5 in cas 1131 ft, perf 1106-1131 ft, comp 10 mcf gas day, 500 lbs pres. Davenport's Kelsey-Bass 1, Davenport subd of n 585 ac of porc 86 and 87, Camargo juris, 4500 ft ne and slightly a Larkins & Warr's Kelsey-Bass 1, 2 mi w Barbacoas field, set 1200 ft sur csg, woc. F. Davenport & Slick Urschel's T. B. Slick Est. 1, el of sec 485, set 1000 ft sur cas, woc. A. G. McMath's M. Guerra & Sons 1, blk 25, Conroe subd porc 55, Juris of Mier 1, D&A 503 ft.

TRAVIS COUNTY—W. B. Bottinfield et al's P. C. Wells Est. 1, J. Harper and J. B. Keurk sur, dr 460 ft, sh. Doray & Lefors' Pfluger 1, 950 ft sl, 1800 ft el of J. Davis sur, dr 640 ft. J. Morgan Russell's Mrs. H. Lindgren 1, of 113-ac tr, Kimbro sur, D&A 1274 ft. A. C. Schram, Stemholm Est. 1, of tr, J. B. Kemp sur, 142-ac tr, dr 745 ft sh.

VICTORIA COUNTY—Plymouth Oil Co.'s J. J. Welder 1, 11,371.9-ac tr, S. Belding sur, ab 141, 7 mi e of Nursery, dr 3487 ft. Portilla O&G Co.'s Welder 2, 933 ft w No. 1, Felipe Dimitt sur, dst of sand 4815-20 ft, rec 2300 ft oil, 14 min, set cas, dr plugs.

WEBB COUNTY—R. S. Bolling's Ft. Worth Nat'l Bank, Tr 1, 660 ft nel, 330 ft nwl of blk 4, sur 466, 2½ mi n Mirando City, set sur cas with spudder, mi rotary. Lu-Tex Oil Co.'s Lone Star Const. Co. 9, porc 12, 12 mi nw of Laredo, fsh 2310 ft. Mid-Continent Pet. Corp. & Oklahoma Co. of Tex., Inc., E. T. Lubacher 1, nw/4 of sec 1394, sd 300 ft. H. E. Nessley's A. M. Bruni heirs 1, 80-ac tr, sec 450, 3 mi s of Kellam Extension to Cole Field, lcn drop. A. M. Bruni heirs 2, 33-ac tr, sec 449, lcn drop. Sackett & Deoghan's Wilmot Est. 1, 330 ft sl and wl sw¼ nw¼ of w 640 ac sur 201, lcn. Smith & Story & Kirkwood & Morgan's S. Lloyd 1, sur 23, 1 mi n of Laurel field, Mirando, sandy sh 1851-63 ft, oil saturation throughout but dst got no rec account sh, dr ahead for Rosenberg, if no prod lower, will pb, set cas below Mirando, gun perf and make swabbing test, sd 2350 ft, woc, plan pb.

WILLACY COUNTY — Shell Pet. Co.'s Yturria Land & Cattle No. 1, sh 65, San Juan de Carritos gr, La Sal Veja prospect, oil sand 7642-52 ft, 9⅝ csg 7625 ft, dst with tool seated at 7642 ft, rec 540 ft oil, some sw, 10 min, ⅜ and ¼ inch, flowed 12,000,000 cu ft gas and 5 bph distillate ¾ ch, tp 2100 lbs, cp 2500 lbs.

WILLIAMSON COUNTY—H. H. Coffield et al's Paul Horn 1, 76-ac tr, J. Bevil sur, sd 800 ft. Fred Hughes' M. A. Bachmeyer 2, C. C. Browning sur, td 1325 ft, landed 7 in cas at 1107 ft; Mrs. Sallie Schlickiesen 1, 70 ac tr, lcn.

ZAPATA COUNTY—Gilcrease Oil Co.'s Antonio Trevino et al 1, blk 5, sec 3, Mode subd, porc 2 and 3, 17 mi w Comitas field, td 250 ft, woc. Hill & Hill's O. S. Alexander 1, porc 25, dr 1006 ft. The Texas Co.'s J. D. Jennings (Whitehead) 93, 1640 ft nel, 7500 ft sel Cerrito Blanco gr, 15,941.6 ac tr, 1 mi fr Escobas production, dr below sur.

TEXAS GULF COAST

AUSTIN COUNTY—W. H. Mitchell's Fenner 1, J. Fitzgibbons sur, dr shale 2529 ft.

BRAZORIA COUNTY—Gulf's Wilkes Smith 2, Lockridge prospect, J. W. Hall sur, ru.

BURLESON COUNTY—Red Bank Oil Co.'s Grann 1, Chriesman area, E. Santa sur, dr shale 4510 ft.

CHAMBERS COUNTY — Laverne Decker's Johnson 1, ne of Anahuac, T. & N. O. sur, sec 30, lcn. Glenn H. McCarthy's Kilgore 2, Cotton Lake area, J. Townsend sur, abn 7030 ft. Humble's Ben Dutton 1, Cotton Lake area, K. Dugat sur, mim. Sun's Hamilton 2, Seabreeze prospect, T. & N. O. sur, sec 128, dk.

COLORADO COUNTY—Sterling's South 1, Garwood area, I. & G. N. sur, sec 41, dr shale 4732 ft.

GALVESTON COUNTY — Shell's Maco Stewart 1, Hitchcock prospect, J. Spillman sur, no report.

HARDIN COUNTY—Republic's Brooks 2, relief well, Silsbee prospect, J. W. Brooks sur, dr shale 4829 ft.

HARRIS COUNTY — Amerada-Stanolind's Carpenter 1, Fairbanks area, F. Fry sur, dr shale 5670 ft. Bunte's Graves 1, Bammel prospect, C. Walters sur, dr shale 5489 ft. Stanolind's Angello Candelari 1, Reels and Troubough prospect, Reels and Troubough sur, dr shale 2046 ft.

LIBERTY COUNTY—J. C. Mayo et al's K. Moore 1, Rumayor prospect, J. F. De Rumayor sur, mim.

MATAGORDA COUNTY—Cockburn's Hawkins 8, Sheppards Mott area, D. McCarthy sur, dr shale 3829 ft. Sun's Craig 2, Hawkinsville dome, T. Williams sur, ru. Tettes & Harris' Pierce Estate 1, Blessing prospect, J. W. E. Wallace sur, sd 2192 ft. Texas Gulf & Superior Oil Producing Co.'s Wadsworth 1, Sheppards Mott area, S. R. Fisher sur, abn 9003 ft.

MONTGOMERY COUNTY—Red Bank Oil Co.'s Central Coal & Coke Co. 1, nw of Montgomery, T. P. Whitmore sur, dr salt water sand 3649 ft. W. W. Chapman et al's Thomas Foster 1, Willis prospect, D. Pevehouse sur, mim.

ORANGE COUNTY—J. R. Turnbull & L. U. Rountree's Lutcher Moore 1, flank Orange field, J. Dyson sur, abn 7006 ft. Tide Water's Brown Fee 1, Cow Bayou prospect, W. Dykes sur, dr shale 6628 ft.

POLK COUNTY — Dick Schwab's Kirby Lumber Company 2-A, Ace Area, P. A. Sublett sur, dr shale 4626 ft. Peyton Brothers et al's McDonald 1, w of Ace field, T. J. Manard sur, lcn.

WALKER COUNTY — L. M. Gay et al's Stubblefield 1, w of Trinity, G. Badilla sur, abn 3013 ft.

WHARTON COUNTY—Felmont Oil Corp.'s General Mitchel 1, Spanish Camp prospect, D. Wade sur, dr shale 2930 ft. Pure Oil Co.'s Duffy 1, Blue Basin prospect, E. T. R.R. sur, sec 107, dr shale 1567 ft; same operator's National Bank of Topeka 1, Blue Basin prospect, W. F. York sur, ru. Texas Crusaders' Hawes & Nelson 1, Lane City prospect, S. Castleman sur, ru.

WYOMING

ALBANY COUNTY—Ohio Oil Co., Elisabeth Stiles 1, swc 12-75n-75w, dr 2940 ft.

CARBON COUNTY—Hal Blakeman's Chapple 1, ne nw 33-21n-76w, dr 772 ft. Medicine Bow Oil Co., Hintze-Government 1, cne se 18-22n-78w, dr 1455 ft. General Petroleum Corporation's Government 1, nw nw nw 33-47n-100w, waiting on rotary tools. General Petroleum Corporation's Union Pacific 1, sw sw sw 5-19s-83w, dr 4386 ft.

HOT SPRINGS COUNTY—Empire State Oil Co., Larson 1, ne se nw 32-44n-93w, dr 715 ft.

NIOBRARA COUNTY — Adams-Louisiana Co., A. L. Spaugh 1, cnw ne 18-35n-65w, spd in with machine to 223 ft and waiting on cement to set around 12½ in csg. Lewis Gokel's 1, sw ne 31-34n-62w, dr 730 ft.

SHERIDAN COUNTY—Beaver Creek Oil Co.'s Allison 1-A, s se se 15-55n-85w, dr 3185 ft.

WESTON COUNTY—John Brorby et al's Lemke 1, se ne 18-35n-65w, dr 431 ft. Conway Oil Co.'s Government 1, se se nw 7-41n-60w, dr 2665 ft.

NEW PRODUCTS FOR THE FIELD
Machinery • Tools • Catalogs • Books

COMPRESSOR UNIT
Worthington Pump & Machinery Corporation

Worthington Pump and Machinery Corporation, Harrison, New Jersey, has announced an improved line of compressor units for repair shops and small industrial plants. The single-stage units are available with vertical compressors. The motor sizes ranges from one quarter to five horsepower, with displacements from 1.43 to 24 cubic feet per minute at a maximum pressure of 150 pounds per square inch.

The two-stage units are available with angle two-stage compressors. The motor sizes range from ¾ to 10 horsepower, with displacements from 3.9 to 45 cubic feet per minute at a maximum pressure of 200 pounds per square inch.

An air pressure switch with a valve for unloading the compressor when starting or stopping is furnished on all models. All units are equipped with the feather valves. The crankshaft is balanced. Wrist pins are full-floating. Cylinder walls are honed. Most models are available with either vertical or horizontal tanks to suit the particular installation.

BANDWHEEL DRIVE
Harry M. Perry

Harry M. Perry, 737 North Spring Street, Los Angeles, has announced an automatic reversible bandwheel drive that incorporates several novel mechanical developments. The automatic belt tension control features two floating pistons between compression springs and all enclosing threaded rods that are adjustable while running.

MAGNET BRAKE
General Electric Company

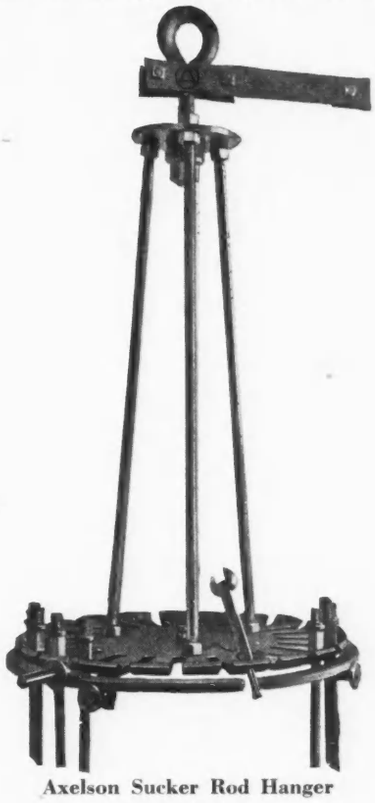
General Electric Company, Schenectady, New York, has announced a new three-shoe, spring-set d-c magnet brake, which combines flexibility of the two-shoe brake with the braking surface protection of the band-type brake. The new brake is designated as the Type CR9523 three-shoe brake. It is intended for use with cranes, hoists, movable bridges, conveyors, and in places where it is necessary to stop and hold a load at the motor armature. The frame is of bar-and-plate stock steel, welded for strength.

The peripheral length of the brake lining is over 85 percent of the wheel periphery. The protection against dust and dirt thus afforded reduces wear on the wheel and lining. Brake shoes are self-aligning and braking in either direction of rotation is equal. A specially developed spring for brake setting gives low build-up, and the resultant smooth braking action reduces mechanical stresses on the equipment. Desired braking characteristics are obtained by adjusting the position of the shoes and the compression of the spring.

The actuating mechanism uses a clapper-type magnet the operation of which is not impaired by ordinary accumulations of dust and dirt. Adjustments are accessible from the top of the brake. When the top brake shoe is disconnected from the operating rod, the brake wheel may be lifted vertically from the brake without disturbing the brake setting.

SUCKER ROD HANGER
Axelson Manufacturing Company

Axelson Manufacturing Company, Los Angeles, is distributing a safety hanger that will rack approximately six thousand



Axelson Sucker Rod Hanger

feet of rods weighing from 7000 to 14,000 pounds with safety to both operators and equipment, it is claimed.

Swiveled on Timken roller bearings, the hanger is easily revolved to alignment with the elevator and the rods are slipped into the slots and locked by the safety ring. This ring locks all of the 22 slots simultaneously and cannot be disturbed accidentally after it has been set by the rod wrench. Ample anchorage to the derrick is provided, and all parts supporting weight are made of special steel.

Geophysical Data

A limited supply of mimeographed copies of "An impartial review of geophysical data on the oil content of soils," will be sent free to those interested in such technical data by Geological Scientific Service Company, 957 E. Davis St., Fort Worth, Texas.

ROLLER BEARINGS
Fafnir Bearing Company

The Fafnir Bearing Company, New Britain, Connecticut, announces a series of heavy duty industrial roller bearings.

Rated capacity of these bearings ranges from 10,000 to 500,000 pounds, depending upon size, speed and loading conditions. The series is said to cope fully with the severe service requirements of heavy metal-working machinery, oil field equipment, and the like.

In the widened range of bearing sizes, rollers of ¾-inch, 1¼-inch and 1½-inch diameter have been utilized, in addition to the 1-1/16-inch diameter used in the bearings previously available. A choice of 18 different bores is offered.

A feature of these roller bearings is the large number of solid rolls which are incorporated in the cage assembly, thus making for increased load capacity. The cage itself is fabricated from specially form-rolled spacer bar stock, with carburized and hardened end rings. Rollers are held in place and guided by spacer bars. The spacer bars of the Fafnir cage are riveted to the end ring.

The roller assembly is made with a fixed radial clearance to allow for the expansion which takes place when the inner ring is shrunk to the shaft. This clearance likewise permits the bearing to operate successfully and without impairment should temperature differentials occur in operation, the manufacturer claims.

CENTRIFUGAL PUMP
Worthington Pump & Machinery Corporation

Worthington Pump and Machinery Corporation, Harrison, New Jersey, has announced a small, quality, low cost centrifugal pump.

The pumps are furnished with direct motor drives or with pulleys for belt drive. The motor sizes range from 1/3 to 3 horsepower, delivering from 10 to 130 gallons per minute with heads from 10 to 100 feet. The shaft is supported by two ball bearings enclosed in a dirt and moisture proof housing. The suction head is easily removable for inspection of the pump's interior. A choice of standard, all-iron, and all-bronze fittings is offered. Water supply, circulation and construction work are a few of the many uses to which this pump is applicable.

ADJUSTABLE WRENCHES
J. H. Williams & Co.

J. H. Williams & Co., 75 Spring Street, New York, announces two lines of adjustable wrenches, both embodying new design features. Square shoulders on the movable jaw shank are said to overcome wedging and spreading action common to the conventional cylindrical bearing and to provide a positive bearing against working stress. This design permits a thicker and stronger "web" without increasing a total head thickness of the wrench.

Both lines are available in five sizes, four, six, eight, 10 and 12 inches.

This Week with the Industry's EQUIPMENT SUPPLIERS

W. D. Owsley Promoted in Halliburton Organization

W. D. Owsley, who has been district engineer for Halliburton Oil Well Cementing Company in the Gulf Coast division for several years, having previously served in the East Texas and California districts, has just been promoted to designing engineer and moved to the main office at Duncan, Oklahoma.

He is a graduate of the School of Petroleum Engineering, University of Oklahoma, Class of January, 1932. Before that he majored in chemical engineering at Georgia Tech. During the summer vacations of 1929, 1930 and 1931 he worked in the laboratories of the Halliburton organization.

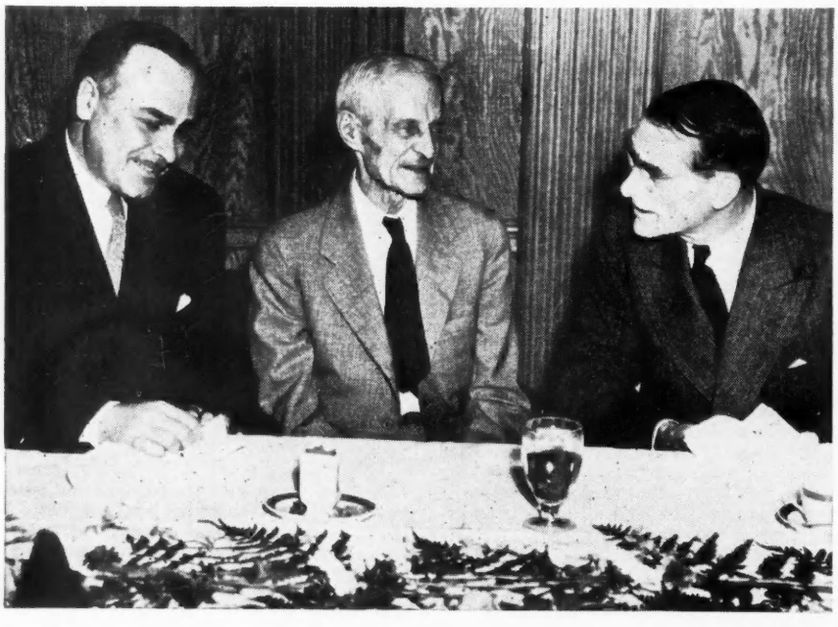
W. D. OUSLEY

Republic Appoints Laskey General Purchasing Agent

Republic Steel Corporation, Cleveland, announces appointment of Frank J. Laskey as general purchasing agent, Robert E. Sherratt has been named assistant general purchasing agent.

Laskey became purchasing agent of Liberty Steel Company, Warren, Ohio, in 1917 and the following year became associated with Trumbull Steel Company, when it purchased Liberty Steel Company. When Newton Steel Company was organized in July, 1919, he became its first purchasing agent and remained until 1935. In 1931 when Newton was merged with Corrigan - McKinney Steel Company, he was made director of purchases of the combined companies. Late in 1935 when Corrigan-McKinney merged with Republic Steel Corporation, Mr. Laskey went to Youngstown as assistant general purchasing agent for Republic.

Sherratt came to Republic at the time of its merger with Central Alloy Steel Corporation and was with that company for three years prior to the merger. He has also served in the purchasing departments of Wheeling Steel Corporation and La Belle Iron Works of Steubenville.



W. W. Hanold, (center), 86, who scorns retirement and comes to work every day at the general offices of the Johns-Manville Corporation in New York welcomes a "youngster"—J. S. Carroll, Industrial Vice President of J-M and former director of the American Petroleum Institute as the 218th member of the company's Quarter Century Club. Left, is Lewis H. Brown, president of the company and organizer of the club. Hanold got his job just 64 years ago this month, through a newspaper want ad. Carroll is known in the petroleum industry for his work in protecting pipe lines from corrosion.

St. Hill Visiting Gulf Coast and Mid-Continent

T. N. St. Hill, vice president of Petroleum Rectifying Company of California, left Los Angeles by plane last week on one of his numerous flying trips to Gulf Coast, Mid-Continent and eastern oil fields on company business. He plans to spend several days at the company's branch office in Houston, Texas, enroute, returning to his office at Los Angeles in about ten days or two weeks.

Rader Becomes Sales Engineer for Smith

C. M. Rader, formerly assistant division superintendent of production for Phillips Petroleum Company in the Oklahoma City district, has joined Smith Separator Corporation as a sales engineer. He will be headquartered in Tulsa. Prior to his connection with the Phillips organization, Rader was connected with Indian Territory Illuminating Oil Company in Seminole field and Midwest Refining Company in Casper, Wyoming.

C. M. RADER

Lockett & Company Elect Crawford Vice President

A. M. Lockett & Company, New Orleans, announces election of C. C. Crawford to vice presidency. Crawford entered the employ of the company in 1905, just after graduating from Tulane University. After having served as manager of the company's Dallas office, he was made secretary and general sales manager of the company in 1919.

Fred E. Cooper Opens West Coast Branch

Fred E. Cooper, the exclusive oil field representative of the Allis-Chalmers tractor division—well-servicing equipment—has opened a West Coast branch at 9619 South Main Street, Los Angeles, California. The new branch will carry a representative line of Allis-Chalmers well-servicing equipment, winch tractors, skid winches, and multiple-cylinder engine

power units, together with a service and parts department.

The new plant will be under the direction of H. R. Moon, who for the past year has been sales representative for Fred E. Cooper in California.

With the opening of this new branch, which will specialize in well-servicing equipment for the oil fields, Allis-Chalmers Manufacturing Company will have representation of all its divisions.

Johnston Wins Formation and Casing Tester Suit

In the suit brought by Earl P. Halliburton and Halliburton Well Cementing Company against Johnston Oil Field Service Corporation and Honolulu Oil Corporation, Ltd., the District Court of the United States for the Southern District of California, Northern Division, has just handed down its opinion in favor of Johnston Oil Field Service Corporation and Honolulu Oil Corporation, Ltd., holding that Johnston Formation and Casing Testers do not infringe United States Patent No. 1930987 granted to John T. Simmons and owned by Halliburton Oil Well Cementing Company.

Publish Booklet on Activities of Drilling-Production Practice

The American Petroleum Institute's Division of Production has published a 12-page booklet reviewing the activities and procedure of the Central Committee on Drilling and Production Practice.

Copies of the new booklet are available from Carl A. Young, secretary, American Petroleum Institute, Division of Production, 1508 Gulf States Building, Dallas, Texas.

Hilliard to Cover Kansas For Byron Jackson

Ben Hilliard, who for a considerable time has been in the sales department for Byron Jackson Company, recently was assigned to cover the Kansas oil country. He will have headquarters at Wichita, Kansas.

BEN HILLIARD

Squeaks from the Bull Wheel

Here lies the body of Mary McCue,
She lived near the well and boarded the crew.
She left this life on the tenth of June,
For she swallowed a June bug instead of a prune.—*Bridgeport Bulletin.*

Where It Was Needed

Willie was being measured for his first made-to-order suit of clothes. "Do you want the shoulders padded, my little man?" inquired the tailor.

"Naw," said Willie, "pad the pants."

Versatile

"Is Jones musical?"

"I should say he is. When he's out, he blows his own horn and at home he plays second fiddle."

Proud Father

A young father stood over his first born's crib gazing at the sleeping infant. His wife saw in his face a mixture of emotion, rapture, despair, admiration, ecstasy, and doubt. Touched and wondering alike at this unusual parental attitude and his conflicting emotions, his wife arose, and with glistening eyes, slipped her arm through his and looked fondly into his face.

"A penny for your thoughts," she said in a tremulous voice.

"I don't see how they can do it," he replied.

"Do what?"

"Make a crib like that for $3.49."

High Hats

Two dark gentlemen called one evening upon the same girl and arrived on her porch at the same time.

"Well, Mista Jonsing, I see we is done arrove simultously dis evening."

"Yessuh, Mista Jones, we sho is contemporary on dis occasion."

Poor Dad

"God gives us our daily bread doesn't he, mamma?"

"Yes, dear."

"And Santa Claus brings the presents?"

"Yes, dear."

"And the stork brings the babies?"

"Yes, dear.

"Then, tell me, mamma, just what is the use of having papa hanging around?"

Why, Of Course

Freshman (preparing an essay): "What do they call those tablets the Gauls used to write on?"

Roommate: "Gaul stones."

Party Man

"No, you can't see Mr. Smith," snapped the sharp-faced woman to the political canvasser at the door.

"But, madam," expostulated the canvasser, "I merely wish to find out what party he belongs to."

"Well, then, take a good look at me. I'm the party he belongs to."

Prospered

"So you met Alice today?"

"Yes, I haven't seen her for ten years."

"Has she kept her girlish figure?"

"Kept it! She doubled it."

Advantage

Bill: "Do you think there is any real advantage in being cross-eyed?"

Belle: "I certainly do. Last night Cross-eyed Pete asked me to have dinner with him in a restaurant and, believe it or not, when the waiter laid the check on the table Cross-eyed Pete reached for the mashed potatoes."

Thirst

The Irishman was relating his adventures in the jungle.

"Ammunition, food and wiskey had run out," he said, "and we were parched with thirst."

"But wasn't there any water?"

"Sure, but it was no time to be thinking of cleanliness."

Family Secret

Teacher (pointing to a deer at the zoo): "Johnny, what is that?"

Johnny: "I don't know."

Teacher: "What does your mother call your father?"

Johnny: "Don't tell me that's a louse!"

That Urge

We really must get a new car, John.

"What—when we're still paying installments on the car I exchanged for the car I sold in part payment for the car we've got now?

Just An Auctioneer

What am I offered for this beautiful bust of Robert Burns?

That ain't Burns, that's Shakespeare.

Well, folks, the joke's on me. That shows what I know about the Bible.

Ho! Ripley

Random items from readers which (and whom) we simply cannot believe:

"I was visiting a friend recently when she received a wedding invitation, and she did not run her finger over the printing to see if it was engraved," says B. T.

"At a party the other night a guest put on an oversized derby without shrugging his shoulders and saying, 'Vell, I'll tell you!'" asserts W. F. W.

"Today my younger sister dusted off the piano keys without sounding a single note," avers F. E. O.

"At a dinner here recently the toastmaster got up, said that the speaker of the evening needed no introduction, and immediately sat down without uttering another word," states J. C.

"The other night I played three rubbers of bridge without hearing any of the players ask: 'Who dealt this mess?'" says E. I. M.

"Yesterday I passed a luggage store that was not having a special sale," writes J. P.

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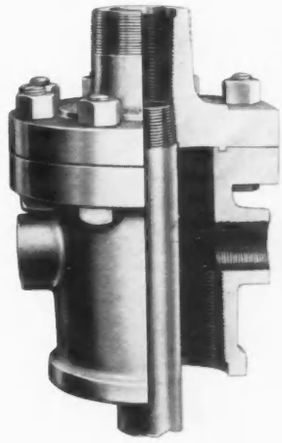

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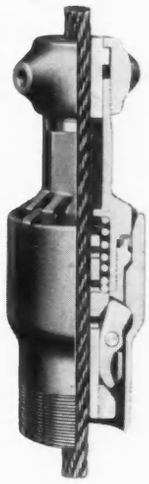
The quick acting end gate makes this sturdy spider a real promoter of speed and safety in handling tubing. With the end gate removed, the spider is quickly placed around the tubing without disturbing any connections. To prevent the spider from spreading under even the heaviest tubing load, the end gate is dovetailed and securely held in place by a large alloy steel bolt. The spider may be rested on or bolted to the tubing head, or placed directly on the derrick floor. The wide top flange provides a resting place for the slip assembly between applications.

A firm, non-slipping, non-swaging grip on the tubing is assured by the four accurately cut slip segments. All slip segments are attached to the hinged tong and cannot come loose. Slips are latched around the pipe until removed by turning the grip of the tong handle.

See the complete 52-page Baash-Ross section in your 1936 Composite Catalog. It begins on Page 115.



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Indispensable when swabbing or bailing. Saves oil, keeps the derrick floor clean and safe. Body screws into the gate valve and the plug fits around the wire line. Scientifically designed packing prevents escape of fluid around line or body joint. Full bronze bushings prevent wire line from contacting steel, eliminate hazard of sparking. Plug instantly releases and lifts out of body on the line when rope socket contacts bottom of plug. When the swab or bailer is started down the hole again the plug enters the body and automatically latches in place.

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When this major-company wildcat was planned for the well-nigh inaccessible timberlands, a string of drill pipe equipped with Hydril Internal Flush Drill Pipe Joints was purchased because it exclusively offered these advantages:

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The maximum volume of circulating fluid is delivered to the bottom of the hole. Drilling is easier, costs are cut, the hazard of fishing jobs is reduced.

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